

THE HORTICULTURIST

AND
JOURNAL
OF
Rural Art and Rural Taste.

DEVOTED TO
HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE,
BOTANY, POMOLOGY, ENTOMOLOGY, RURAL ECONOMY, &c.

CONDUCTED BY
J. JAY SMITH,
Editor of the N. A. Sylva.

New Series, Vol. VII.—January to December, 1857.

WHOLE NUMBER, 12 VOLS.

PHILADELPHIA:
PUBLISHED BY ROBERT PEARSALL SMITH,
Nos. 517, 519 AND 521 MINOR STREET.

BOSTON: JOSEPH BRECK & SON; NEW YORK: C. M. SAXTON & CO.;
BALTIMORE: J. S. WATERS; CHICAGO: S. C. GRIGGS & CO.

1857.

Like pattern

THE HORTICULTURIST.

Various Estimates of its Value.



THE *point of view* we take in examining any subject is of the utmost importance in determining its character. This is fully illustrated by several personal interviews we have lately had when in a semi-somnambulent state, and as the observations we record illustrate the above position, we deem it well to print them. Some are not very flattering, but when we awoke we consoled ourselves with believing the *point of view* of the speakers was erroneous. At all events, the difficulties of the editor's position will be better understood by a perusal of the conversations and remarks.

[*A Lady and Gentleman are seen entering a gate Lodge, conversing.*]

Gentleman. Well, now, my dear, I like the *Horticulturist* as well, if not better than ever. It generally contains just what I want to know. I hope the mail has brought it.

Lady. I should think so, from your habit of re-reading it so often. For my part, I think it is dreadful dull. We've had but one or two stories in it the whole of last year.

Gentleman. Very true, but "stories" are no part of its business. It is designed to impart information, and in a pleasant way to instruct us. Its composition is evidently a work of love, and great care and much time are bestowed upon it. My only fear is that it doesn't pay the publisher.

Lady. I should like to see more poetry and some fashion in it, for my part.

Gentleman. For that matter, if poetry and fashionable intelligence get into it, I give it up.

The Gatekeeper. Here are the newspapers and the other post-office matters. How I wish they'd stop that *Horticulturalist*! I never could see what people want to keep fishes in vases for, and are always trying to get *newer grapes*, as if they thought them better than our good old ones!

Gentleman. Ah! very true, Jonathan. You know better than that, don't you?

Gatekeeper. Certainly I do! Why, the old fox grapes never was exceeded, and as for Hamburgers, they're no touch to my old seedlins.

Gardener (stepping up). Jonathan, you know nothing, and never will learn it, neither. Why, nobody can do without the *Horticulturist*! I wish, however, he *had* told us last month a little more about the mildew. I'm sure it might be better. What business had they to waste the room with a foolish story about Aunt Charlotte's seedling strawberry? it was sheer nonsense.

Gatekeeper. I suppose it was; I never reads them are things, and wonder anybody can.

[*The Lady and Gentleman get home, with a new Horticulturist.*]

Lady. Any tales like the Strawberry Seedling in the *Horticulturist* this month?

Gentleman. None; I have already said we don't want any tales in it.

Lady. Well, give me the *Home Journal*, and such as that.

Daughter. I'm sure, ma, there's a thousand better things in it than tales. Those articles on hanging plants, you know you liked.

Lady. Why, yes—now and then I do see something I like, but the fact is, I rarely read it!

Son. Then, ma, you certainly don't know what is in it. I wouldn't give it up for ten times its cost. It seems to me full of information and entertainment combined. But here comes neighbor Bob Acres, let's ask him.

Acres. If you ask me for an opinion, I'm always prepared. The *Horticulturist* isn't wuth three cents! It never has drawings of horses, cattle, sheep, or pigs; and as to your garden flowers, and frippery, who cares a copper, I don't!

Daughter. Well, Bob, but I wish you did. Do you think *any* young lady would live at Cloverdale and never see anything but hay? I won't, believe me.

Acres. Wait, my dear, till you're ——!

Daughter. No, I won't wait till I'm asked! I hate to see a place without fruit, and a garden and flowers, and you needn't ask *me*—never!

Gentleman. There, Bob, you've got it; now you take the *Horticulturist*, and get up a garden, if you want ever to be married.

Bob. Well, if ever I do, then ——

Son. We'll think you mean to pop the question.

Bob. No, no. I'll never read any such stuff. Why, do you suppose I don't know how to plant a tree, or cut it down either!

Daughter. Ah! Bob, you are perfectly incorrigible.

Bob. Incorrigible or not, you don't catch me reading books. Incorrigible, am I—that's one of your botanical terms, is it!

Gentleman. Come, Bob, that will do.

[*Enter, a young Lady, with a basket.*]

Young Lady. Oh, Maria! I've got such beautiful mosses; I've been in the woods all the morning, collecting to make those elegant moss baskets described in the *Horticulturist*. I've made enough by their sale to purchase plenty of books for our little school, and they say in town they want two dozen more! That's the way I use my dear *Horticulturist*!

Bob (who evidently has a liking for the last speaker). Oh, Charlotte, why didn't you ask me to help you pick the mosses? I should have been *so* glad.

Charlotte. I'll never ask a favor of you, Master Robert, till you have a proper respect for reading and knowledge; and if ever I see you tearing out those colored pictures of apples and pears, I'll—I'll never speak to you again; mind that!

Bob. Oh dear, what a little hornet!

(*Aside.* I believe I must take to reading a little, or they'll never talk to me.)

[*Enter, Charlotte's mother.*]

Mother. Really, how perfect your garden looks this morning. Those plants recommended in the *Horticulturist* are all that was said of them. Can't I have cuttings?

Gentleman. Certainly you can; but here is neighbor Acres, who thinks this kind of thing all trash!

Daughter. He won't think so always; will you, Bob?

Bob looks a little crest-fallen, takes up the *Horticulturist* from the table, asks what it costs, and ends by ordering a copy. He reads it, too, and by next year we hope to record that one of the two young ladies—we believe it will be the basket-maker—has become Mrs. Acres, with a flower-garden, a lawn, some hand-

some plantations, and a reformed husband, who has been for six months vainly trying to complete his set of the *Horticulturist*!

Such are a few only of the contending views which go to make up the host of readers who "take in," as our grandfathers expressed it, a work like the present. The pomologist would like it better if it had no flowers in it; the lover of flowers, perhaps, has no taste for cultivating fruit. The man with a single idea for strawberries, wonders how we can ever dabble with architecture; the farmer too often sees no good in a vegetable garden; a "calendar of operations" to him should include pasturing and soiling cattle; and thus it is with us all; *what we know, we like to read about*, in the hope of *knowing more*. Surrounded, then, by these difficulties, we have, pretty much, to follow our own tastes, and the course marked out for us, and be satisfied if we enlist people of our own way of thinking; well convinced that in the multitude and crowd of periodicals each one can be suited.

There has been much time and labor bestowed on the *Horticulturist*, by many minds, since it made Philadelphia its home; it has obtained a large additional patronage, which evidently grows with the wealth and taste of the country, and though its friends think its circulation not equal to the wants of the people, we have learned therewith to be content, as we know, after a tour which has embraced within the last eighteen months a very large part of the Union, that it has appreciative readers on its topics *everywhere*.

ON PACKING TREES AND PLANTS.

BY THOMAS MEEHAN, GERMANTOWN, PA.

To one accustomed to packing nursery stock, nothing seems more simple; while to outsiders it seems something of a mystery how plants which they have been taught to believe require such nice proportions of light, heat, air, and moisture with exact regularity, can exist for days and weeks, and endure long voyages, with very little apparent inconvenience, though the supposed necessary conditions of existence are so seemingly confused. Even many experienced packers, who are perhaps known to be something superior in the art, would in many cases be unable to give any reason for their respective processes.

Hitherto we have had to follow the Chinese way of doing things in learning to pack. It is related of a sailor stationed in a Chinese port, that he hired a native tailor to make him a pair of pantaloons in place of one, which, on account of two unseemly patches behind, were in a discreditable condition. The pair was handed to Pig-ta-el for a pattern, and when the number of moons necessary for one of these tardy gentlemen to complete the important piece of work, had passed away, he returned with the new inexpressibles, but, with patches of the exact size, and in the identical positions of those in the patterns on the new garment! Thus our packers pack exactly as their fathers packed, because their fathers packed so, and precisely as they were learned to pack.

In the spring of the present year, I saw a large importation of roses and Norway spruces opened. They were from a first class European house, and the packing would have been pronounced by experienced hands very superior, yet there was not one rose alive, while not a spruce out of thousands was injured. They were both packed exactly alike; but what was life to the one, was death to

the other. Had the packer understood the theory of his art as well as he did its practice, his employer would probably have gained an annual customer in one who now believes that roses cannot be imported successfully.

Heat, air, light and moisture are necessary for the growth of plants; but in packing we aim only to preserve their existence. Light is only necessary while the plant is growing. Whenever growth commences, it must have its due proportion of light, or it soon decays. One of the chief points in good packing, therefore, is to prevent growth. This being guarded against securely, plants can be kept boxed or baled up in darkness for a long time. The chief agent in exciting growth is heat. A packer's chief care should be to get full control of this power.*

Every one knows that when vegetable substances are collected in bodies, deprived of air and light, and become moist, they commence to decay; and, in the process, evolve heat. To avoid this, those substances the least liable to decay by being moistened, are employed as packing material.

Of all substances yet known, moss is the best in this particular, as under ordinary circumstances, its decay is very slow. How wet the packing material should be, or how much of it should be employed, will depend on the time the plants may have to remain covered, and what description of plants they are. Plants with soft watery foliage need the packing material rather dry; while deciduous trees, or plants with hard leathery foliage, may have it quite wet. If plants have to be sent some distance, it is in any case safest to use rather dry packing material; and to depend on maintaining sufficient moisture for the plants' existence, by packing tight so as to prevent evaporation. It need scarcely be added, after what has been said, that the cooler plants can be kept until they are opened, the better for them, unless the temperature is below freezing point, frosty weather being equally, with hot, favorable to evaporation.

It may be useful to say a few words on the details of packing as well as the principles. Plants are transported in either boxes or bales. The former is by far the most convenient for small trees under three feet, as well as for all kinds of pot plants; trees of larger growth are best baled. Boxes for this purpose should be strong, as they are liable to rough usage at times on wharves. In packing pot plants, the first process is staking the plant, tying in all the branches, as the closer they are tied the less they will get injured by each branch and leaf rubbing against others. Then the soil must be fixed so as to prevent its being thrown out of the pots. This is effected by tying moss over it around the stem of the plant on the upper surface of the pot.

There are two ways of tying on the moss. In one case the packer takes the end of the string and the pot in his left hand, crosses the string over the surface and under the bottom of the pot six or eight times, and finishes by bringing it around under the rim. In the other the pot stands on the bench, and the string is brought around under the rim, each time it is made to cross over the moss, and does not go under the pot at all. The first is the easiest way; the last makes the best job, as it can never loosen, which the first often does. After the plants are mossed, and a box selected capable of holding the required number, a few inches of moss is placed in the bottom, and the largest and heaviest pots selected and placed on their sides on two faces of the box, so as to "look at each other." Strips of any narrow pieces of waste wood are then cut so as to fit exactly inside the box; these are placed along the face of the pots, so as to come on a line with

* Many packages of plants are now transported in steamboats or ships, and they are too often carelessly placed near the influence of the boiler. It would be well always to mark the package "to be kept cool," and to give instructions to that effect.—Ed.

the upper edge, and then are firmly secured by a nail driven into the end of the strip through and from the outside of the box. When one row is thus finished, some few inches more moss is placed on the lower course of pots, another layer of pots, and then another strip; this is again repeated till the box is full. If the strips are pressed tight to the faces of the pots, they will not press heavily on those beneath them; and if the whole is properly done, plants may be sent a six weeks' voyage in safety, without the breakage of a pot. Some plants, as oranges, camellias, and other similar plants, are taken out of their pots, and moss or canvass wrapped around the balls; these are repotted on arriving at their destination, and in proper hands do very well, while it saves considerable expense in freight and express charges. Young trees are packed in moss, in any way they will lie conveniently; when the box is tight, a very thin layer of moss is employed between each layer of trees; in open crates, a greater quantity is used around the roots, and less among the branches.

Baling is a more difficult operation to perform properly. From fifty to one hundred of ordinary sized nursery trees make a respectable bale; two or three of the tallest trees are first collected together, then small quantities of damp moss placed in the crevices of the roots, a few more roots laid on, and more moss, until the whole number is laid together; a band of rye straw is then passed around the bundle near the collars of the roots, and drawn together as tightly as possible; two or three more bands are passed around at other parts.

A bast or cocoa-nut mat—the last to be preferred—is then laid on the floor of the packing shed, and a few bundles of rye straw spread out the length of the stems of the trees, so that six or eight inches of the end of the straw will lap over the mat; then on the mat some six inches of wet straw is placed, and on this, the roots laid in about the middle of the mat; the bundle is placed, the wet straw well packed around the roots, the mat drawn up very tightly around, and sewed together; and then lastly the straw brought equally around the bundle, and corded regularly around, at about six inches interval till the end is reached, when the cord should be brought down on the opposite side lengthwise, secured to each circle of cord as it passes, and finished by being secured to the mat at the base.

In cording bales, deciduous trees cannot be too tightly drawn together; evergreens should be drawn together more loosely, as they are apt to heat, especially if they are somewhat damp.

I trust this brief explanation of the principles of packing, and slight sketch of the mode of doing it, will be sufficient to set novices on the track of becoming proficient in the art. I am sensible I have done little for their information, for it is truly one of those arts in which "practice makes perfect."





J. C. Loudon

A SHORT ACCOUNT OF THE LIFE AND WRITINGS
OF JOHN CLAUDIUS LOUDON.

BY HIS WIDOW.

JOHN CLAUDIUS LOUDON was born on the 8th of April, 1783, at Cambuslang, in Lanarkshire, the residence of his mother's only sister, herself the mother of Dr. Claudius Buchanan (the author of a work entitled *Christian Researches in Asia*), whose labors in India, in attempting to convert and instruct the Hindoos, have made his name celebrated in the religious world. Mr. Loudon was the eldest of a large family; and his father, who was a farmer, residing at Kerse Hall, near Gogar, about five miles from Edinburgh, being a man of enlightened mind and superior information, was very anxious that he should have every possible advantage in his education. Strange to say, however, Mr. Loudon, when a boy, though

fond of books, had an insuperable aversion from learning languages, and no persuasions could induce him to study Latin and French, though his father had a master from Edinburgh purposely to teach him the latter language. At this early period, however, a taste for landscape-gardening began to show itself, as his principal pleasure was in making walks and beds in a little garden his father had given him; and so eager was he to obtain seeds to sow in it, that when a jar of tamarinds arrived from an uncle in the West Indies, he gave the other children his share of the fruit, on condition of his having all the *seeds*. While yet quite a child, he was sent to live with an uncle in Edinburgh, that he might attend the classes at the public school. Here he overcame his dislike to Latin, and made extraordinary progress in drawing and arithmetic. He also attended classes of botany and chemistry, making copious notes, illustrated with very clever pen-and-ink sketches. Still, he could not make up his mind to learn French, till one day, when he was about fourteen, his uncle, showing a fine French engraving to a friend, asked his nephew to translate the title. This he could not do; and the deep shame and mortification which he felt, and which he never afterwards forgot, made him determine to acquire the language. Pride, however, and a love of independence, which was ever one of his strongest feelings, prevented him from applying to his father to defray the expense; and he actually paid his master himself, by the sale of a translation which he afterwards made for the editor of a periodical then publishing in Edinburgh. He subsequently studied Italian, and paid his master in the same manner. He also kept a journal from the time he was thirteen, and continued it for nearly thirty years; writing it for many years in French, in order to familiarize himself with the language.

Among all the studies which Mr. Loudon pursued while in Edinburgh, those he preferred were writing and drawing. The first he learned from Mr. Paton, afterwards father to the celebrated singer of that name; and, strange enough, I have found an old letter of his to Mr. Loudon, Sen., prophesying that his son John would be one of the best writers of his day—a prophecy that has been abundantly realized, though certainly not in the sense its author intended it. Drawing was, however, his favorite pursuit; and in this he made such proficiency, that when his father at last consented to his being brought up as a landscape-gardener, he was competent to take the situation of draughtsman and assistant to Mr. John Mawer, at Easter Dalry, near Edinburgh. Mr. Mawer was a nurseryman, as well as a planner (as the Scotch call a landscape-gardener); and, while with him, Mr. Loudon learned a good deal of gardening generally, particularly of the management of hothouses. Unfortunately, Mr. Mawer died before his pupil was sixteen; and for three or four years afterwards, Mr. Loudon resided with Mr. Dickson, a nurseryman and planner in Leith Walk, where he acquired an excellent knowledge of plants. There he boarded in Mr. Dickson's house; and, though remarkable for the nicety of his dress, and the general refinement of his habits, his desire of improvement was so great, that he regularly sat up two nights in every week to study, drinking strong green tea to keep himself awake; and this practice of sitting up two nights in every week he continued for many years. While at Mr. Dickson's, he attended classes of botany, chemistry, and agriculture; the last under Dr. Coventry, who was then Professor of Agriculture in the University of Edinburgh, and he was considered by that gentleman to be his most promising pupil.

In truth, it has been highly gratifying to me, while turning over family papers to obtain what particulars I could of my husband's early life, to find continually, in old copy and account books, letters which had been, no doubt, treasured up by his mother, from different persons under whom he had studied, bearing the most

honorable testimony to his proficiency in the various branches of his education, and particularly noting his unwearied perseverance in making himself thoroughly master of whatever he undertook. Mr. Loudon was not a man of many words, and he was never fond of showing the knowledge he possessed; but it was astonishing how much he did know on every subject to which he had turned his attention.

In 1803, he first arrived in London. The following day he called on Mr. Sowerby, Lambeth; he was exceedingly delighted with the models and mineralogical specimens, which were so admirably arranged as to give him the greatest satisfaction from his innate love of order; he afterwards devised a plan for his own books and papers, partly founded on that of Mr. Sowerby, but much more complete.

As he brought a great number of letters of recommendation to different noblemen and gentlemen of landed property, many of them from Dr. Coventry, he was soon extensively employed as a landscape-gardener; his journal is filled with accounts of his tours in various parts of England. It is curious, in turning over his memoranda, to find how many improvements suggested themselves to his active mind, which he was unable, from various circumstances, to carry into effect at the time, but which, many years afterwards, were executed either by himself or by other persons, who, however, were unaware that he had previously suggested them. Throughout his life, similar occurrences were continually taking place; and nothing was more common than for him to find persons taking the merit to themselves of inventions which he had suggested years before. When this happened, he was frequently urged to assert his prior claim; but he always answered, that he thought the person who made an invention useful to the public, had more merit than its original contriver; and that, in fact, so long as the public were benefited by any invention of his, it was perfectly indifferent to him who had the merit of it. There never lived a more liberal and thoroughly public-spirited man than Mr. Loudon. He had not a single particle of selfishness in his disposition, and in all his actions he never took the benefit they would produce to himself into consideration. When writing a book, his object was to obtain the best possible information on the subject he had in hand; he was never deterred from seeking this by any considerations of trouble or expense.

That these feelings influenced him from the time of his first arrival in England, may be traced in every page of his Journal; that they continued to influence him to the last day of his life, was only too evident to every one around him at that mournful period.

When Mr. Loudon first arrived in London, he was very much struck with the gloomy appearance of the gardens in the centre of the public squares, which were then planted almost entirely with evergreens, particularly with Scotch pines, yews, and spruce firs; and, before the close of the year 1803, he published an article in a work called *The Literary Journal*, which he entitled "Observations on Laying out the Public Squares of London." In this article, he blamed freely the taste which then prevailed, and suggested the great improvement that would result from banishing the yews and firs (which always looked gloomy from the effect of the smoke on their leaves), and mingling deciduous trees with the other evergreens. He particularly named the Oriental and Occidental plane trees, the sycamore, and the almond, as ornamental trees that would bear the smoke of the city; it is curious to observe how exactly his suggestions have been adopted, as these trees are now to be found in almost every square in London.

About this time, he appears to have become a member of the Linnæan Society, probably through the interest of Sir Joseph Banks, to whom he had brought a letter of introduction, and who, till his death in 1820, continued his warm friend.

At the house of Sir Joseph, Mr. Loudon met most of the eminent scientific men of that day, and the effect produced by their conversation on his active mind, may be traced in his *Journal*. Among many other interesting memoranda of new ideas that struck him about this period, is one as to the expediency of trying the effects of charcoal on vegetation, from having observed the beautiful verdure of the grass on a spot where charcoal had been burnt.

In 1804, having been employed by the Earl of Mansfield to make some plans for altering the Palace Gardens at Scone, in Perthshire, he returned to Scotland, and remained there several months, laying out grounds for many noblemen and gentlemen. While thus engaged, and while giving directions for planting and managing woods, and on the best mode of draining and otherwise improving estates, several ideas struck him, which he afterwards embodied in a book published in Edinburgh and in London. This, then, was the first work of Mr. Loudon's presented to the public through the Messrs. Longman, with whom he continued to transact business of the same nature for nearly forty years. The book alluded to was entitled "*Observations on the Formation and Management of Useful and Ornamental Plantations; on the Theory and Practice of Landscape-Gardening, and on Gaining and Embanking Land from Rivers or the Sea.*" This was his first separate work, and shows how strongly his mind was, even in his youth, imbued with the subject of his profession, though he was then apparently disposed to treat it in a different style from what he did in after years.

The work is divided into sections, in one of which, in particular, on the principal distinctions of trees and shrubs, are some very interesting observations, which show how well their author was acquainted with the characteristics of trees and shrubs even at that early period of his life. Before Mr. Loudon left Edinburgh, he published another work, entitled "*A Short Treatise on some Improvements lately made in Hothouses.*" This was in 1805; and the same year he returned to England. On this second voyage to London, he was compelled, by stress of weather, to land at Lowestoffe; and he took such a disgust at the sea, that he never afterwards travelled by it, if it was possible to go by land. He now resumed his labors as a landscape-gardener; and his *Journal* is filled with the observations he made, and the ideas that suggested themselves of improvements, on all he saw. Among other things, he made some remarks on the best mode of harmonizing colors in flower gardens, which accord, in a very striking manner, with the principles afterwards laid down by M. Chevreul in his celebrated work, entitled *De la Loi du Contraste simultané des Couleurs*, published in Paris, in 1839. Mr. Loudon states that he had observed that flower gardens looked best when the flowers were so arranged as to have a compound color next the simple one which was contained in it. Thus, as there are only three simple colors—blue, red, and yellow—he advises that purple flowers, which are composed of blue and red, should have yellow next them; that orange flowers, which are composed of red and yellow, should be contrasted with blue; and that green flowers, which are composed of blue and yellow, should be relieved by red. He accounts for this on the principle that three parts are required to make a perfect whole; and he compares the union of the three primitive colors formed in this manner with the common chord in music; an idea which has since been worked out by several able writers. He had also formed the plan of a *Pictorial Dictionary*, which was to embrace every kind of subject, and to be illustrated by finished wood-cuts printed with the type.

In 1806, Mr. Loudon published his "*Treatise on Forming, Improving, and Managing Country Residences, and on the Choice of Situations appropriate to every Class of Purchasers.*" With an Appendix containing an Inquiry into the

Utility and Merits of Mr. Repton's Mode of showing Effects by Slides and Sketches, and Strictures on his Opinions and Practice in Landscape-Gardening. Illustrated by Descriptions of Scenery and Buildings, by References to Country-Seats and Passages of Country in most Parts of Great Britain, and by thirty-two Engravings."

This work was much more voluminous than any of the preceding ones; it was ornamented by some elegant copperplate engravings of landscape scenery, drawn by himself, which, in 1807, were republished, with short descriptions, as a separate work.

During the greater part of the year 1806, Mr. Loudon was actively engaged in landscape-gardening; and, towards the close of that year, when returning from Trè-Madoc, in Caernarvonshire, he caught a violent cold by travelling on the outside of a coach all night in the rain, and neglecting to change his clothes when he reached the end of his journey. The cold brought on a rheumatic fever, which settled finally in his left knee, and, from improper medical treatment, terminated in a stiff joint; a circumstance which was a source of great annoyance to him, not only at the time when it occurred, but during the whole of the remainder of his life. This will not appear surprising, when it is considered that he was at that period in the prime of his days, and not only remarkably healthy and vigorous in constitution, but equally active and independent in mind. While suffering from the effects of the complaint in his knee, he took lodgings at a farm-house, at Pinner, near Harrow; and, while there, the activity of his mind made him anxiously inquire into the state of English farming. He also amused himself by painting several landscapes, some of which were exhibited at the Royal Academy, and by learning German, paying his expenses, as he had done before when he learned French, by selling for publication a pamphlet which he had translated by way of exercise. In this case, the translation being of a popular work, it was sold to Mr. Cadell for 15*l*. He also took lessons in Greek and Hebrew. The following extract from his Journal, in 1806, will give some idea of his feelings at this period: "Alas! how have I neglected the important task of improving myself! How much I have seen, what new ideas have developed themselves, and what different views of life I have acquired since I came to London three years ago! I am now twenty-three years of age, and perhaps one-third of my life has passed away, and yet what have I done to benefit my fellow-men?"

Mr. Loudon, during the length of time he was compelled to remain at Pinner, became so interested respecting English farming, and so anxious that the faults he observed in it should be corrected, that he wrote to his father, stating the capability of the soil, and the imperfect state of the husbandry, and urging him to come to England. It happened that at this period the farm called Wood Hall, where he had been staying so long, was to be let, and Mr. Loudon, Senior, in consequence of the recommendation of his son, took it, and removed to it in 1807. The following year, Mr. Loudon, who was then residing with his father at Wood Hall, wrote a pamphlet entitled "An Immediate and Effectual Mode of Raising the Rental of the Landed Property of England; and Rendering Great Britain Independent of other Nations for a Supply of Bread Corn. By a Scotch Farmer, now farming in Middlesex." This pamphlet excited a great deal of attention; and General Stratton, a gentleman possessing a large landed estate, having read it, was so much interested in the matter it contained, that he offered him a portion of his property at a low rate, in order that he might undertake the management of the rest, and thus introduce Scotch farming into Oxfordshire.

The farm which Mr. Loudon took from General Stratton, and which was called Great Tew, was nearly eighteen miles from the city of Oxford, and contained upwards of 1,500 acres. "The surface," as he describes it, "was diversified by bold

undulations, hills, and steeps, and the soil contained considerable variety of loam, clay, and light earth, on limestone and red rock. It was, however, subdivided in a manner the most unsuitable for arable husbandry, and totally destitute of carriage roads. In every other respect it was equally unfit for northern agriculture, having very indifferent buildings, and being greatly in want of draining and levelling." At this place he established a kind of agricultural college for the instruction of young men in rural pursuits; some of these, being the sons of landed proprietors, were under his own immediate superintendence; and others, who were placed in a second class, were instructed by his bailiff, and intended for land-stewards and farm-bailiffs. A description of this college, and of the improvements effected at Great Tew, was given to the public in 1809, in a pamphlet entitled "The Utility of Agricultural Knowledge to the Sons of the Landed Proprietors of England, and to Young Men intended for Estate-Agents; Illustrated by what has taken place in Scotland. With an Account of an Institution formed for Agricultural Pupils in Oxfordshire. By a Scotch Farmer and Land-Agent, resident in that County." In this pamphlet there is one passage, showing how much attached he was to landscape-gardening, an attachment which remained undiminished to his death; and how severely he felt the misfortune of having his knee become ankylosed from the effects of the rheumatic fever before alluded to. The passage, which occurs in the introductory part of his work, is as follows: "A recent personal misfortune, by which the author incurred deformity and lameness, has occasioned his having recourse to farming as a permanent source of income, lest, by any future attack of disease, he should be prevented from the more active duties and extensive range of a beloved profession on which he had formerly been chiefly dependent."

Notwithstanding the desponding feelings expressed in this paragraph, Mr. Loudon appears, from his memorandum books, to have been still extensively engaged in landscape-gardening, as there are memoranda of various places that he laid out in England, Wales, and Ireland, till the close of 1812. Before this period he had quitted Tew; and finding that he had amassed upwards of 15,000*l.* by his labors, he determined to relax his exertions, and to gratify his ardent thirst for knowledge by travelling abroad. Previously, however, to doing this, he published two works: one entitled "Hints on the Formation of Gardens and Pleasure-Grounds, with Designs in various Styles of Rural Embellishment; comprising Plans for laying out Flower, Fruit, and Kitchen Gardens; and the Construction and Arrangement of Glass Houses, Hot Walls, and Stoves; with Directions for the Management of Plantations, and a Priced Catalogue of Fruit and Forest-Trees, Shrubs, and Herbaceous Plants; the whole adapted to Villa Grounds from One Perch to One Hundred Acres in Extent;" and the other, "Observations on laying out Farms in the Scotch Style adapted to England."

In the first of these works, the subjects enumerated in the title page are fully discussed; the second contains many interesting particulars respecting the farm of Great Tew rented by himself, and those of Wood Hall and Kenton Lane rented by his father. From this work it appears, that, though Mr. Loudon, Senior, enjoyed but a few months' health after settling at Wood Hall, which he entered upon at Michaelmas, 1807, his death taking place in December, 1809, the estate was so much improved, even in that short period, that it was let after his death for a thousand pounds a year, being three hundred pounds a year more than he had paid for it. It also appears that Mr. Loudon entered on the farm at Great Tew at Michaelmas, 1808, and left it in February, 1811; General Stratton paying him a considerable sum for his lease, stock, and the improvements he had effected.

(To be continued.)

SOME ACCOUNT OF AN ORCHIDEOUS HOUSE, CONSTRUCTED AT PENLLERGARE, SOUTH WALES.

BY J. DILLWYN LLEWELYN, ESQ., F. H. S.



Interior of Orchideous House at Penllergare.

I inclose with this the section of the stove, which I promised to send. This will show the shape of the building; the water for the supply of the cascade is conducted to the top of the house by means of a pipe communicating with a pond at a higher level. This pipe is warmed by passing with a single coil through the boiler, and terminates at the top of the rock-work, where it pours a constant supply of water over three projecting irregular steps of rough stone, each of which catches the falling stream, dividing it into many smaller rills, and increasing the quantity of misty spray. At the bottom the whole of the water is received into the pool which occupies the centre of the floor of the stove, where it widens out into an aquarium or-

namented with a little island overgrown like the rock-work with Orchideæ, Ferns, and Lycopods.

The disposition of the stones in the rock-work would depend much on the geological strata you have to work with: in my case they lie flat and evenly bedded, and thus the portions of the rock-work are placed in more regular courses than would be necessary in many other formations. In limestone or granite countries, designs much more ornamental than mine might, I think, be easily contrived.

The account of the splendid vegetation which borders the cataracts of tropical rivers, as described by Schomburgk, gave me the first idea of trying this experiment. I read in the "*Sertum Orchidaceum*" his graphic description of the falls of the Berbice and Essequibo, on the occasion of his first discovery of *Huntleya violacea*. I was delighted with the beautiful picture which his words convey, and thought that it might be better represented than is usual in stoves.

With this view I began to work, and added the rock-work which I describe to a house already in use for the cultivation of Orchideous plants. I found no difficulty in re-arranging it for its new design, and after a trial now of about two years can say that it has entirely answered the ends I had in view.

The moist stones were speedily covered with a thick carpet of seedling Ferns, and the creeping stems of tropical Lycopods, among the fronds of which many species of Orchideæ delighted to root themselves.

Huntleya violacea was one of the first epiphytes that I planted, and it flowered and thrived in its new situation, as I hoped and expected. The East Indian genera, however, of *Vanda*, *Saccolabium*, *Aerides*, and other caulescent sorts, similar in habit and growth, were the most vigorous of all, and many of these in a very short time only required the use of the pruning-knife to prevent their overgrowing smaller and more delicate species.

Plants that are grown in this manner have a wild luxuriance about them that is unknown to the specimens cultivated in the ordinary manner, and to myself they are exceedingly attractive, more resembling what one fancies them in their native forests—true air-plants, depending for their subsistence on the humid atmosphere alone.

Different species thus intermingle together in a beautiful confusion, *Dendrobium*, and *Camarotis*, and *Renanthera*, side by side, with wreaths of flowers and leaves interlacing one another, and sending their long roots to drink from the mist of the fall, or even from the water of the pool below.

Many species are cultivated upon the rocks themselves, others upon blocks of wood, or baskets suspended from the roof, and thus sufficient room is secured for a great number of plants. At the same time the general effect is beautiful, and the constant humidity kept up by the stream of falling water suits the constitution of many species in a degree that might be expected from a consideration of their native habits; and I would strongly recommend the adoption of this or some similar plan to all who have the means of diverting a stream of water from a level higher than the top of their stove.

This, I think, in most situations might be easily contrived. Our house lies on high ground, and the water is brought from a considerable distance, but yet I found very little difficulty or expense in its construction.



VISITS TO COUNTRY PLACES.—No. 6. AROUND NEW YORK.

AMONG the improvements carried out, projected, or completed at the country seats "Around New York," as well as elsewhere, we found many gentlemen giving a good account of the Portable Gas Works. Country houses may now be well and economically lighted by this process, and the gas made without risk by the newly simplified apparatus; the gas, throwing out of the question the first cost of a few hundred dollars, is cheaper than that consumed in cities, and more free from injurious qualities; we shall speak of it, however, in another place.

It is *some years* since we made our first trip up the North River; let us recall the incidents as they are vividly presented to memory.

One of the earliest boats of any note was the Chancellor Livingston, and a very stanch and substantial craft she was. We set out at ten o'clock in the morning for Albany. At one we had a grand lunch, in the style of sea-going ships; at four, dinner for about forty passengers in all. Next morning we stopped a long time at Livingston Manor, to get cream for breakfast, and at two o'clock were safely landed at Albany, having made an extraordinarily quick passage of twenty-eight hours! The fare was eight dollars! "Sleepy Hollow" days those. Let us proceed with times present.

Montgomery Place, the seat of Mrs. Edward Livingston, and occupied by herself and her children, Mr. and Mrs. T. P. Barton, was originally the residence of General Montgomery. It therefore has age and trees consequently of more antiquity than are usually seen. Its speciality now is the Arboretum, the most successful effort yet made among us, and though it has been executed at considerable cost of time, labor, and money, yet we cannot but regret that Mr. Barton has not allowed himself greater space for the future development of his various specimens, which, in process of time, must be seriously injured by their too close proximity. Nevertheless, *great credit* is due for this first effort.

In the other planting, the trees have become old staggers, and much that has been done by man represents the plantations of nature, and very beautiful and valuable they are. Combined with these, amid avenues, and shady walks, and a drive of many miles on the property, is an extensive flower-garden, the especial pet of Mrs. Barton, who has here shown effects which have not before been exhibited in this country. Her masses of roses and other flowers are particularly attractive. The arbors, overgrown with *Aristolochia siphio*, the Dutchman's pipe, exceed anything of the kind we have ever seen. These were designed by Mr. Otton, a wood carver and architectural decorator, of Philadelphia, whose merits are not sufficiently known.

The noble stream and cascades dividing Annandale and Montgomery Place, have already been described as well as words can depict what is indescribable. In short, Montgomery Place is all that a country-seat need, and, in our climate, can be.

Ellerslie, the seat of William Kelly, Esq., we also visited, with much pleasure. This place has passed through several hands, and was last purchased from W. S. Warwick, a Virginia gentleman; he purchased of James Thompson, Esq., who had improved it. It continues to be one of the very best examples of high keeping. As managed by Mr. Kelly, it exhibits a repose that is highly pleasing. The whole 700 acres are almost entirely devoted to the growth of grass for hay. This gave it, at the period of our visit before the first cutting, a uniform appearance, resem-

bling one great park. The hay is pressed on Mr. Kelly's own property, and shipped, for commercial purposes, from Rhinebeck, three miles off, no doubt supplying many a month's feed for horses further south. This is understood to pay an extremely good profit on the large investment, probably at the present price of hay, equal to cotton, when we take into account the amount of labor expended on each. As a specimen of "gentleman farming," this place should be studied; beyond doubt, the system is highly remunerative.

The surroundings of the mansion are in elegant taste, and from a white temple, on an elevation in the lawn, erected in imitation of the Temple of the Winds, the scene is perfect. A well-known and distinguished author is said to have thrown himself down upon the grass here, exclaiming: "Take from me all my literary reputation, throw my fame and copyrights to the winds, if I can exchange them for *this!*" Well might such an exclamation be made, for the scene *is perfect*. Surely, few earthly views will ever surpass it.

Ellerslie certainly exceeds all the Hudson River places in the beauty of its glass houses; the conservatories and graperies are remarkably effective, both from their situation and character and the style of the buildings.

Parsons & Co.'s Nurseries, at Flushing, L. I.—Before leaving the vicinity of New York, to which, before this series of "visits" can be completed, we shall be obliged to return to finish our notes, we paid an interesting trip to the nurseries of our friends, the Messrs. Parsons, at Flushing; the new house of one of the members of the firm, ornaments our pages to-day as a frontispiece, and a description of it will be found on another page.

These nurseries are among those which have, by general consent of purchasers, been called "reliable," because character goes before profit with the proprietors. What they supply, you may depend upon as according with the description, and, if it does not, you may be sure of corrections being made. The active season of shipments having passed, we had leisure for a good survey of the "table of contents" of these extensive nurseries, and noted a few of its specialities for the benefit of our readers.

Stuartia virginica, one of those beautiful and rare flowering shrubs, which we seldom see in collections, these nurseries will be able to supply a moderate demand for; stoles from an old plant, with flower pots to receive roots from various branches, we were delighted to recognize in tolerable abundance. This plant, unlike our favorite, the *Gordonia pubescens*, is hardy, at least as far north as New York; we do not hesitate to say it is one of the very valuable additions to every plantation; especially should we recommend it for a dressed, wide border, where its summer bloom will eclipse anything at the same season.

The following plants are also among the rarer kinds, and are in abundance at this garden nursery:—

Taxus variegata,

" *Dovastoniana*, hardy.

Upright English Yew, a very fine plant, and harder than the *Abies Morinda* and *Excelsa*.

Scotch Firs, of good size and shape.

Deodara, in abundance.

Norway Spruce and *White Pine*, ditto.

Menzie's Spruce—but this has not proved hardy at Flushing.

Rhododendrons. Here is a fine supply for bedding and massing, and at prices that will be satisfactory to its admirers, and which might, we think, be insured to survive a moving.

We pencilled, as we passed through, the following list, which we publish as matter of information, and to recall some articles that our readers may have forgotten:—

Clusia Alatifolia and *Acuminata*.

Celastrus, *Deutzias*.

Peta-Leafed Beech.

Cleome ciliolata.

Spirea Callosa.

Lonicera Brownii.

" *sempervirens*.

Magnolia conspicua—grafted on the *acuminata*. Never purchase one that is not thus grafted, if you want an abundant bloom, and a handsomely formed tree.

Virgilia lutea. We were not a little pleased to find this, our long-established favorite, plenty here, although small. Let no one who plants, and who has it not, allow the opportunity to escape.

Magnolia longifolia, a plant greatly resembling the *glauca*, and valuable as a variety.

Taxus adpressa.

Podocarpus Japonica.

Retinospermum ericoides.

Quercus pedunculata.

White Spruce, or *Abies Alba*.

Tilia argentea pendula, very fine.

Pinus excelsa, perfectly hardy, and very beautiful.

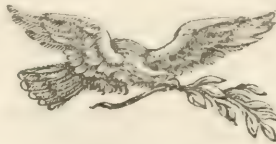
Abies lasiocarpa, very similar to *Nobilis*, and from California.

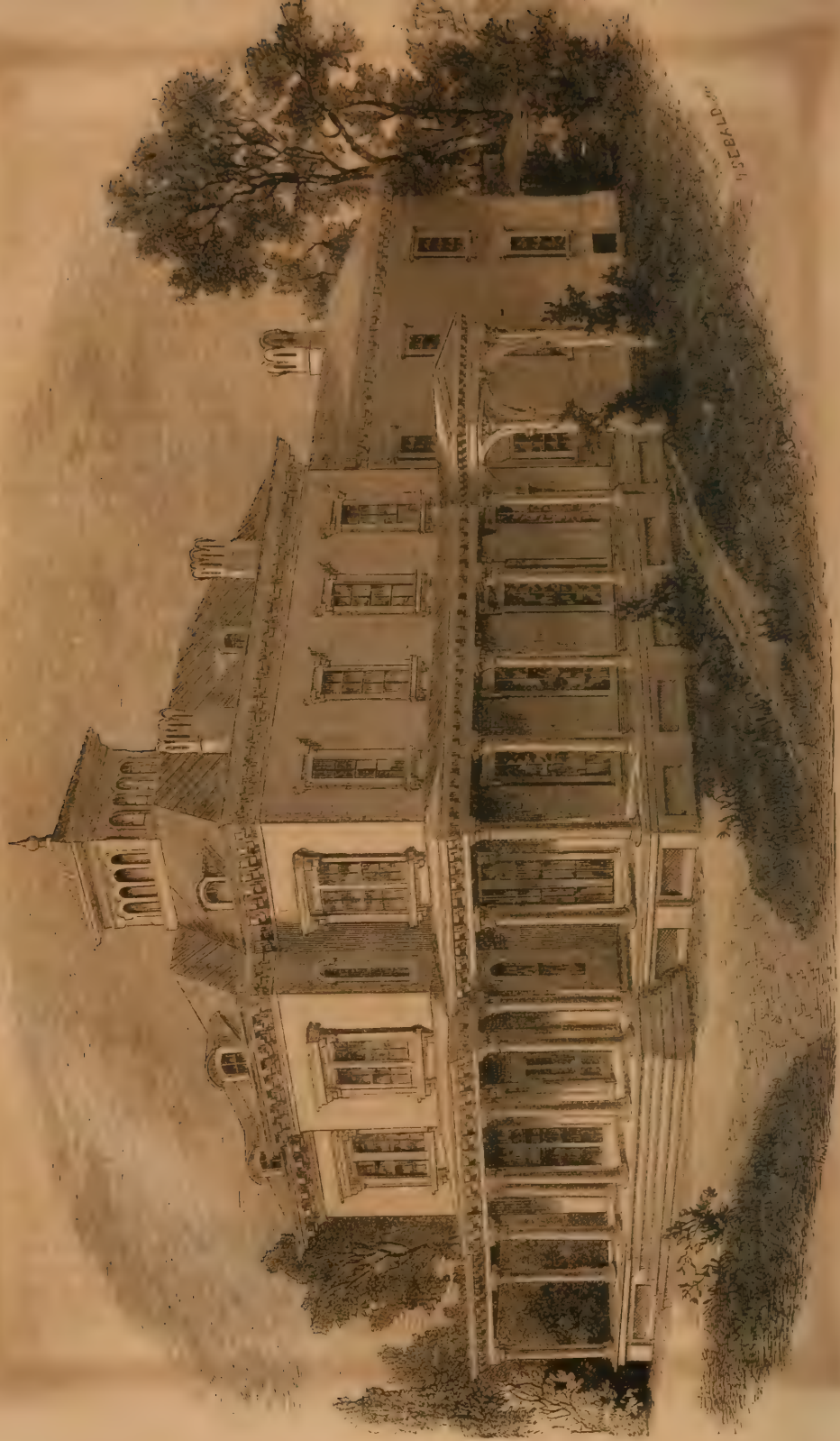
Pinus muricata, a California Pine like *Cembra*.

This list we might greatly enlarge, but we forbear, as the catalogue is largely distributed, and we have no wish that any of these hasty sketches should assume the character of an advertisement; in the present case, we had to seek, personally, the information we are able to give, and to make an exertion, after great fatigue, to procure even our meagre outline. Many of the rare varieties are kept more for the interest attaching to them, there being no demand, at the high European prices, to warrant large importations.

The Residence of J. A. Perry, Esq., at Bay Ridge, Long Island, on the road to Fort Hamilton, presents some of the finest views of New York Bay and the surrounding scenery; the place has great capabilities, and Mr. Perry is developing them rapidly; no one possesses a finer appreciation of the ornamental and beautiful than Mr. Perry, as is evidenced by his former splendid residence in Brooklyn, by his improvements at Greenwood Cemetery, and now at Bay Ridge. New York and the country is indebted to Mr. Perry for the very existence, no less than the present improvements of Greenwood Cemetery, which he presides over with an affection and care that cannot be too much praised. In due time his exertions in this quarter will be fully appreciated, as they are already by those who seek to know to whom they are so largely indebted.

With this number we close, for the present, our visits "Around New York." The ensuing numbers will contain brief remarks on places in the neighborhood of Boston, Newport, Baltimore, Philadelphia, &c. &c.





RESIDENCE OF S. B. PARSONS, FLUSHING, L. I.

NEW PLANTS.

AMARANTHUS ALBUS. Nat. Ord. *Amaranthaceæ*.—A variety with white stems, brought into notice by Captain Hall, of Berwick-upon-Tweed, who has forwarded seeds to the Horticultural Society. The plant grows to the height of about two feet, flowers pale green, leaves ovate, stems much branched, glabrous, and very white. It is used as a vegetable, and will, from the high testimonials we have seen, no doubt become an esteemed addition to the table, the leaves having the flavor of spinach, and the stems, being tender and succulent, are said to resemble asparagus.

DELPHINIUM CARDINALE. Hook. *Ranunculaceæ Helleboreæ*.—This is a plant about to make a sensation in the horticultural world. A scarlet larkspur! *Rara avis*, that is to say, the phoenix of the genus. Surely we need not despair of a blue rose.

The *Delphinium cardinale*, by its original color, being well worthy of its name, is, besides, very elegant in appearance and form. It is an annual. Its simple, straight stem, of the height of from two to three feet, ends in a long panicle of flowers, of the liveliest vermilion color. The radical leaves are very large, and borne on long petioles, and deeply divided in five cuneiform segments, divided themselves into two or three narrow lobes. This fine species is one of the numerous happy discoveries of the collector, William Lobb, in his voyage to California. It is probable it is a native of the mountains in the interior of the country, where the members of the many scientific expeditions of the United States of America seem to have met with it. Cultivated in the first place by MM. Veitch, of Exeter, and Chelsea, it flourished perfectly in the open air, in August, 1855.—*Flore de Serres*.

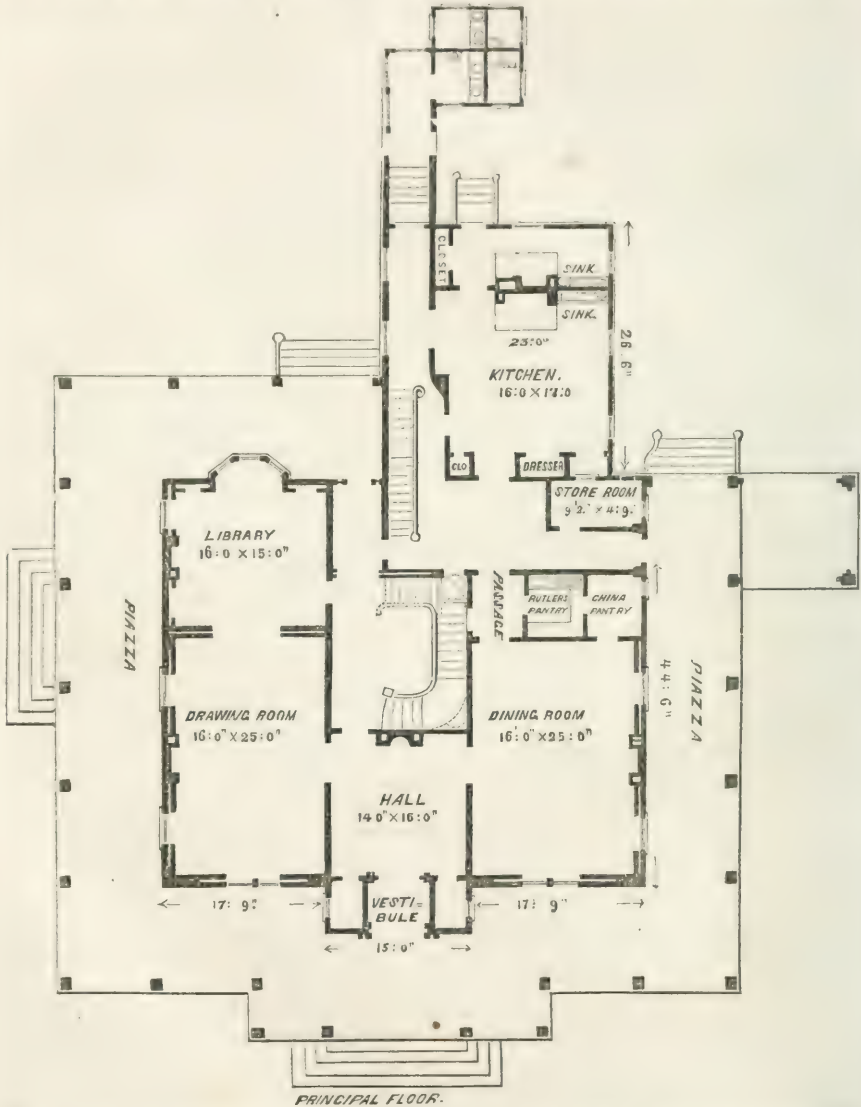
WEIGELA CORÆENSIS, *Thunberg in Trans. Linn. Soc., II. 331; alias* W. *amabilis*, *Planchon in Fl. des Serres, VIII. t. 855. Bot. Mag., t. 4893; alias* *Diervilla grandiflora*, *Sieb. and Zucc. Fl. Japonica, I. t. 31.*—Why this plant, perfectly well-figured in the *Icones Kämpferianæ*, should have received the garden name of *amabilis*, we are unable to explain. Nor do we see how it is to be distinguished from the *Diervilla grandiflora* of Siebold and Zuccarini. In some respects it much resembles *W. rosea*, but differs from it, firstly, in its more reticulated leaves, crisp edge of the corolla, and brighter color; and, secondly, in the very important garden quality of *flowering in the autumn*, when we have nothing like it among hardy shrubs. We have now (Oct. 8) a specimen before us loaded with most brilliant, deep, rose-colored flowers, trailing (for it is not much of a bush) over a peat border among *Rhododendrons*, and uncommonly handsome it is. In our judgment, it is, beyond all comparison, the best autumnal shrub after the rose.—*Gardener's Chronicle*.

RESIDENCE OF SAMUEL B. PARSONS, FLUSHING, LONG ISLAND.*

THE house is built of wood, filled in with brick laid flat in such a way as to leave a space of an inch between the brick and the outer covering. The outer covering is plank, one and a quarter inches thick, three inches wide, tongued and grooved, and put together with white lead. The piazza columns are plain round Doric. The blinds and close sliding shutters all open inside, thus obviating the necessity of exposure to the weather in opening or shutting. On each side of the

* See Frontispiece.

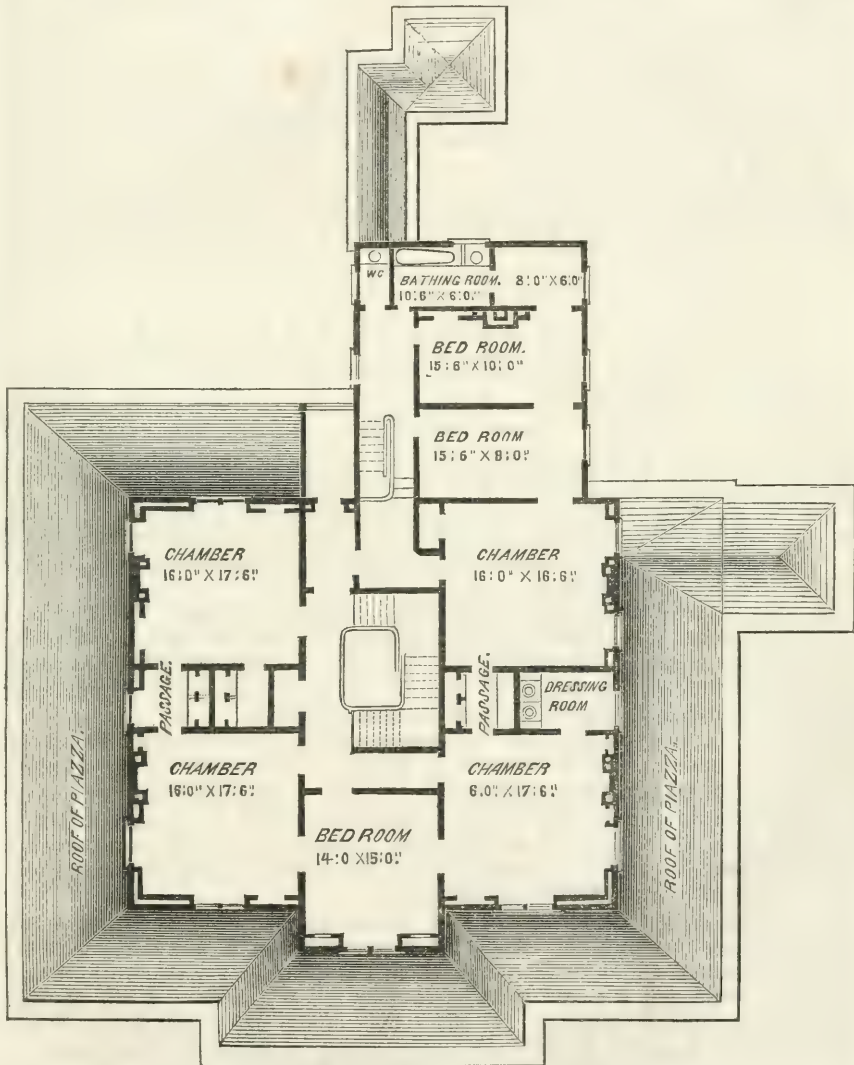
vestibule is a closet, one for hanging coats, and the other for a standing writing desk, with a gas-jet over it. The stairs are of solid oak, and shut off from the rest of the house. The library opens into the drawing-room, and also into the stair hall. It has a bay window, and is finished solidly with English oak, the book-cases being set in the wall. Opening into the dining-room is a china pantry,



and also a dish closet, in which is a sink drain, and jets of hot and cold water, and gas. In the kitchen-dresser is a sliding window opening into the store-room.

Between the dining-room and kitchen is an entry and side door opening on the *porte-cochère*. The kitchen is supplied with hot and cold water from a tank which is kept filled from a spring a quarter of a mile distant by means of a ram, and also a windmill. The whole house is lighted with gas, which is also used for cooking in warm weather. The laundry, with permanent wash tubs, ironing range, &c., is in the basement under the kitchen, where is also the dairy, drying-room, &c.

From the cellar is a passage communicating with a closet in the ice-house.



SECOND FLOOR.

On the second floor the chambers all communicate, thus securing a thorough ventilation at all times either by means of open windows or through the stair hall, which opens into the observatory. Over the kitchen is the water-closet, bath-room, and dressing-room. Over the piazza, in the angle formed by the kitchen with the house, is a balcony always shaded in the morning, and used as a sitting place in summer.

In the third story are four chambers, a hall, and a children's play-room sixteen by forty feet. Above this is the observatory, commanding a view of the surrounding country, the East River, and the Palisades on the Hudson.

The house is heated by two furnaces in one chamber, the second furnace being used only in extreme weather.

This dwelling, which is both elegant and eminently comfortable, occupies, nearly, the site of the old family mansion, which was destroyed by fire recently. Its arrangements, including the ice-house, are remarkable for their substantial air. In a separate building is a school-room for Mr. P.'s children, and to this school a very few selected neighboring youths are admitted, a plan which, while it insures a guarded private tuition, removes one objection to that system.

The planting in the grounds has been judiciously done, and under such advantages of possession at hand of all that could be desirable, will soon prove eminently effective.

PRACTICAL HINTS TO AMATEURS.

BY THE LATE A. J. DOWNING.*

You may plant peas, for the earliest crop, as soon as the frost is out of the ground, and it is fit to dig. Choose a warm, sheltered spot, and use rotten stable manure and ashes in preparing the soil, before sowing the seed. Peas don't mind a hard frost, even when on rich or too high ground; and therefore the earlier you plant, the earlier you pick. If you have to plant in the open garden, you may hasten your crop by sowing the drills east and west, and setting a board on the ground edgeways, on the north side, to shelter each row. "Prince Albert" is one of the best early sorts.

Rhubarb is an invaluable plant to those who like a spring tart. You may have yours ready to cut a week before your neighbor's, without the trouble of forcing, if you set your plants in a border on the south side of a wall or tight board fence, and take the precaution to loosen up the soil, and cover each crown of roots with a bushel basket full of black peat earth the autumn before.

Some men are marvellously fond of *pruning*, and go about cutting a limb here, and a branch there, without "rhyme or reason." Don't prune your standard trees, unless the branches are so unnatural as to crowd each other; and even then, they should be thinned out as little as possible to answer the purpose. Or, in the other case, where the tree has got into a stunted and feeble state, when a shortening-back the terminal shoots, along with a good dressing of manure, will make it push out strong, healthy shoots again.

If you wish to get early crops in your kitchen garden, make some boxes two feet square, and a foot high. Knock them together out of any rough boards; and if you cannot afford to glaze the whole top (and, to say the truth, it is a waste of money), put a single light in—a 7-by-9. If you want a hill of early cucumbers, melons, or tomatoes, dig out a hole of the size of the box, and two and a half feet deep, fill it with fresh stable manure mixed with litter, tread the

* Reprinted from an early volume of the *Horticulturist*.

manure down firmly till there is room for six or eight inches of good light soil. On the latter plant your seeds. They will soon start, with the slight warmth of the manure, and the box will protect them at night, and during cold and stormy days, till the season is settled. Every mild day you will, of course, raise it up on one side an inch or two, for fresh air; and in positively warm days, remove it for a few hours altogether. In this way, you will get a crop, at small cost, a long start in advance of the unsheltered growth along side, and have none of the bother and vexation of *transplanting* from hotbeds. The boxes cost very little, if you make them yourself; and if laid away as soon as there is no further need of them, they will last a dozen years or more.

When you are planting a tree or shrub, don't be penny-wise and pound-foolish; in other words, so anxious to have it look large, as to be unwilling to cut off a single inch of its top to balance the loss of roots. Remember that if your tree would grow six inches if left "unshortened;" it would grow twelve if properly shortened, besides making far healthier shoots and bigger leaves, to say nothing of its being five times as likely *not* to die.

If you are about to turn "orchardist," never buy a large quantity of trees of any nurseryman, on the strength of his own "extensive advertisements. It is easy to say fine things in print; such as "immense specimen grounds," "50,000 trees, carefully propagated under the direction of the proprietor," &c. &c. Go and see for yourself; and very likely the "immense specimen ground" may turn out to be a dozen old trees in a grass plat, and the nursery a wilderness of confusion. Never, in short, buy a large quantity of fruit trees of any man who is a stranger to you, without inquiring first all about his accuracy, from customers who have dealt with him, and proved his sorts. Such people, who have tasted his quality, are not very likely to tell "long yarns," though advertisements sometimes will.

The neatest and most perfect mode of grafting, is *splice grafting*. (See Downing's Fruits, p. 15.) It can only be done when your stock and scion correspond pretty nearly in size; but the *amalgamation* is done in short-hand. Tie the wound over neatly with a strand of matting or coarse woollen yarn, and smear the whole over with thick "shellac paint," and not one in a hundred will fail.

No large fruit tree is so readily "reformed" as a pear. Many a tree, of twenty or thirty feet high, that stands, at this moment, within ten rods of your door, and bears nothing but fruit that you would be ashamed to offer at a country fair, may be made to bear *bushels* of Bartlett's, or something as good, in three years' time, by the expenditure of a couple of hours, in cutting back and grafting all the principal limbs as soon as the sap is fairly in motion. "Cleft grafting" is the readiest mode for this sort of subject; and a little practice will enable any one to perform it very quickly.

If you want to be successful in transplanting, don't be afraid of working in dull weather. If you are shy of a "Scotch mist," buy an India-rubber macintosh. Nothing is so cruel, to many sorts of trees, as to let their tender fibres parch up in a dry wind, or a bright sun. Such weather may be fun to you, but 'tis death to them.

Dress your lawns with a mixture of guano and ashes; one bushel of the former to four bushels of the latter. The earlier in the spring it can be put on the better, so that the rains may carry the soluble parts to the roots. A light coat of this, spread broad-cast, is much better for grass than any other manure.

The best top-dressing for a strawberry bed is *burnt sods*. Pile up the brush and rubbish you have at hand in layers with the sods, and set fire to the heap; let it smoulder away for several days, till the wood is pretty well burnt out, and

the sods well roasted. Then overhaul the heap, chop and beat it up fine with the spade, and, after loosening up the soil in the bed, give them a coat an inch or two in thickness. It will give new life to the plants, and set them in a way to give you an uncommonly fine crop.

AN OLD DIGGER.

DEGENERATION OF VARIETIES OF THE PEAR-TREE.

MR. DE JONGHE, of Brussels, has been writing lately much about his favorite pear-tree, and comes to the following conclusions respecting the degeneration of varieties, so much talked about. He says:—

“From what has been already stated, it will be understood that varieties cultivated in climates analogous to that in which they were raised, will, in general, retain their characters, provided the trees are planted in a suitable soil, and treated in a proper manner.

“If the causes of degeneration are to be ascertained, they may be sought and found:—

“1. In the use of improper stocks, which have no affinity with the graft.

“2. In the use of grafts badly selected, either taken from the lower part of very young trees, or from others weak and affected with various diseases.

“3. In the use of grafts grown in an artificial manner.

“4. In a mode of cultivation unsuited to the nature of the variety.

“5. In planting a variety in soil which is either too poor and too shallow, or too heavy, cold and moist.

“6. In want of attention, in consequence of ignorance of the first elements of a rational mode of culture.

“With respect to the first three causes, we have touched upon the principal points connected with them on several occasions in previous articles, and it would be superfluous to revert to them. Concerning the fourth, it is evident to every practical man that a normal degree of vigor, and, consequently, a good crop of perfect fruit, can only be obtained by allowing the tree to take that form which is most in conformity with its mode of vegetation. If that form is constantly restricted by premature pinching, or by too severe pruning, the tree bears a few small, cracked, gritty fruits, becomes barren, and is eventually destroyed. This is not owing to degeneration, but to a want of skill on the part of the cultivator. Nor can we attribute the cause to degeneration, when bad fruit is gathered from a tree planted in a soil which is too strong, compact, and moist. It is not reasonable to seek from the soil that which it cannot give.

“We have seen a plantation of more than 100 pear-trees, comprising about 80 of the best varieties of pears. These trees were confided to one who is known to be an able cultivator. They were all trained in the same form—that of a dwarf pyramid—upon the free stock, and upon the quince. On the 15th of June, 1856, the 100 trees had not 200 pears on them. The premature pinching, performed, in a season different from the ordinary run, had caused a disordered vegetation, from which, of course, the trees suffered, and, in consequence of which, they were not able to set their fruit. Moreover, the ground where the trees were planted was covered with a rather thick layer of horsedung, and this preventing the action of the air and sun upon the soil which covered the roots, the trees were unable to profit by the beneficial effects of the solar rays upon the ascending sap. If these trees remain weakly and barren, is that result to be attributed to the circumstance of the varieties treated in this way having reached the period of degeneration?

“That fruit-trees,” he concludes, “are disposed to degenerate in consequence of the time they have been in existence, we do not believe.”



THE BEURRE SUPERIEUR PEAR.

BEURRÉ SUPERFIN PEAR*.

ACCORDING to Mr. Dupuy Jamain, and other reliable horticulturists in Paris, this fruit is the product of one of the numerous grafts or young trees sent by Prof. Van Mons to Mr. Poiteau. The tree is hardy, well suited to this climate, of a rather thorny and wild character, of vigorous and healthy appearance. Its form and shape is rather pyramidal with some diverging branches. It grows on the quince, but is better on the pear stock, on which it will do as an orchard tree. *Bark*, grayish green, with light brown dots or freckles. The blossom spurs are often terminated with a sharp or an abortive thorn. *Leaves*, medium, a little recurved, serrated and of a dark green color. *Buds*, pointed, gray. *Fruit*, middle sized, pyriform, sometimes above middle size, of a dull green, with numerous brown marblings, and occasionally, as in Boston, with a faint dull red cheek. *Stem*, one inch long, not stout, set on the surface, sometimes swollen at the junction. *Eye*, very small, sunk in a moderately deep *calyx*, sometimes made irregular by a few ribs, which in some localities and seasons extend over the whole fruit, and instead of smooth, make it look knobby and coarse. *Flesh*, white greenish, delicate, very juicy, half melting and buttery, with sugar and flavor enough to make it one of the best pears. Although opinions do not agree in the east, west, and south about the quality of this variety, we can safely predict that in the Middle States, under proper cultivation, and in a rich sandy loam, its qualities will not prove inferior to any of the pears of that region. They have been tested in New Jersey, and at Wm. Reid's nursery it was always found a "very good" pear. It seems not to be as good in Western New York; but it will be safe to wait for trees of a proper age and steady habits before a final judgment.

The Superfin kept well, and ripens slowly from September to late in October, at least so it did with us. This was a little surprising, as in France it rarely can be kept over September, but it is not the first pear coming to maturity later than in its native climate. Perhaps no summer nor fall pear ripens here as early as in Paris. For instance, we have never passed through the end of June without some fine dishes of Madeleines—which do not ripen here until the middle of July. This was not only in France, but in the cool wet climate of Belgium.

GARDEN VEGETABLES, NO. 1.—THE CUCUMBER.

BY WM. CHORLTON.

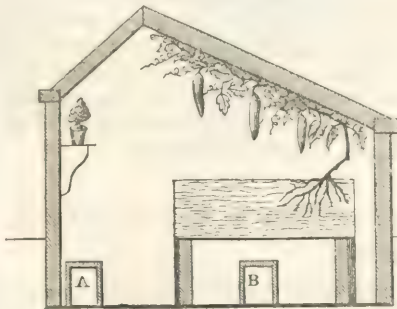
ALLOW me to offer a few paragraphs on the cultivation of this generally accepted kitchen edible; and first, of *soil and situation*. The Cucumber delights in a rich and loose vegetable mould—consequently, decomposed leaves or vegetable refuse will furnish a good manure. Barnyard dung is the next best substitute, but this ought not to be rank or unfermented, as, in such state, it produces too exuberant a growth of plant and paucity of fruit, with a subjectness to canker and gangrene in the stems. The situation ought, in all cases, to be open to the sun, and, if possible, screened from the action of violent winds.

Out-door Culture.—In this there is no more skill required than for ordinary crops of other vegetables. It is well to make choice of land which has been cultivated the previous season. Dig or plough deeply in the fall; let the ground lay as rough as possible throughout the winter, and when it is in good working order, after the frosts, give it a thorough stirring with the fork or plough. About the middle or latter part of April, according to latitude, will be time to prepare

* See Frontispiece.

for sowing. Mark off the whole piece into straight and right-angled lines, six feet apart, the intersections of which will show exactly the spot for each hill of plants; at these crossings, drop a few forkfuls of manure, and work it in well, so that it may mix with some nine square feet of the soil, leaving the middle a trifle elevated above the general level; upon this make a flat surface; drop from six to eight seeds, and cover an inch. When the young plants have produced some three "rough" leaves, go over the whole plot, pull out all but the three strongest, raise the soil up to those left—so far as the seed leaves—and nip out the top above the third rough leaf; this will cause side branches to be sooner emitted, and an earlier production of fruit. It also enhances very much the fruitfulness and better quality, if a periodical pinching of the ends of the shoots be persevered in throughout the season—say at every sixth or seventh joint; and, at the same time, those branches which are superfluous, or are not showing fruit in the axils of the leaves, may be rubbed out by the thumb. This will prevent crowding, and give the leaves a free exposure to the light, which will assist the productiveness. Work the hoe often and deeply over the ground before the vines cover it, and so prevent the requirement of much after-weeding. Cucumbers are subject to become bitter if the plants have not sufficient moisture, which makes it necessary where quality is an object, to give water in dry weather. When this is done, let a good soaking be applied.

Forcing in the Hothouse.—There is no difficulty in having Cucumbers fresh-gathered from the vine all the year round, but, of course, with a plant which is so soon injured by cold, all, excepting the summer crop, have to be grown under glass, and the necessary heat must be applied artificially. Were a house to be erected for this purpose, a very suitable one would be as represented in the accom-



ppanying cross-section plan, and heated by a flue A, B; or, still better, hot-water pipes and boiler. Such a house might be ten feet wide by as many feet long as the proprietor might think fit, and it is not for cucumbers alone that this would be useful. Bush-beans, strawberries, and some other things of like character, could be forced, if introduced into the same apartment; besides, its suitableness for propagating young flowering plants. There is no real necessity for going to the expense of such an erection where there are

other houses in which the more tender exotics are grown, and a night temperature of 60° is kept, as a small portion may be used for this purpose, and four or five plants trained up near the glass, will give a supply for a small family the whole winter.

The Cucumber, as it is most commonly grown, is but an annual plant, but it is possible to extend its lifetime, and it may be propagated from seeds, or by layers and cuttings. The first is the readiest method, but if we desire to retain some individual plant of superior excellence, and have not got any seed of the same, it becomes necessary to resort to the other modes of increase. To grow from *cuttings*, take a short-jointed branch of not more than three or four leaves; cut off with a sharp knife immediately below a leaf-joint, remove the lower leaf down to the knot, and place the cutting so prepared one inch deep in a four-inch pot filled with sandy vegetable earth. If the operation be performed in hot summer time, remove to a shady and damp place in a frame or other glass convenience; cover

with a bell glass, or other similar substitute, but not too close; leave a small opening for the extreme moisture to escape, to prevent damping. At any other season, the best place is the warmest part of a forcing-house, and the addition of a little bottom warmth; water rather sparingly until roots are emitted, but keep the soil moist. Layers may be rooted in the following manner: Choose a short-jointed shoot; have a four-inch pot in readiness half filled with the above-mentioned soil; sink it up to the rim directly under the intended layer; cut off the third or fourth leaf from the top down to the axil, and bend this joint into the pot until it touches the earth; next fill up to near the top, and place a stone over the whole, to keep the branch from springing; give water as may be required, and, in three weeks, the newly rooted plant may be cut off, and planted where needed. If a supply of fruit be wanted for fall and midwinter use, the seed may be sown, or the above operations performed about the beginning of August.

When the cuttings or layers are well rooted, or the seedling plants have got three rough leaves, they will be ready for planting in their fruiting quarters, which should be the warmest part of the hothouse, or as shown in the plan, and either placed near the glass, or trained up with a straight stem until the top arrives thereat, when it may be nipped out. The after-training will be the same as explained for out-door culture, only each branch will need to be tied so as to keep the leaves near the under side of the roof, in the same way that grape-vines are managed. A box or pot containing three cubic feet, will hold soil enough for a plant during the season, which ought to be well drained by putting two inches of broken crocks or charcoal in the bottom. Liquid manure will have to be applied occasionally during active growth, and this may be diluted drainings from the stable, or guano dissolved in the proportion of one ounce to a gallon. Keep the temperature at 60° by night, with a rise of ten to fifteen degrees during sunshine, and maintain a moist atmosphere.

Forcing by Dung-Beds.—The Cucumber may be successfully grown as an early spring crop on a hot dung-bed, covered by a box frame and glass sashes. Commence by putting together a heap of fresh, unfermented horsedung, and, if leaves are at hand, add one-third in bulk; when the whole becomes well heated up, turn it over, still keeping it together, to prevent any check in the fermentation, and in a few days it will be ready for use. Choose a dry spot; measure off two feet wider and longer than the size of the box frame; excavate this area two feet deep, in which build up the bed to the height of four feet from the bottom; place on the frame and sashes immediately, which will protect from the cold, and assist fermentation. Wait for a few days, and when the maximum heat is ascertained, and a portion of the pungent smell has passed away, cover over the whole inside surface with three inches deep of soil. A thermometer may now be hung up out of reach of the sun, and so as not to touch the soil, and when it indicates 70° to 75° in the morning, without any offensive effluvia, the bed is in a fit state for the plants or seeds. A mound, containing the half of a wheelbarrowful of the before-described compost, may now be placed under the centre of each sash, levelling the top down to one foot from the glass. Under this mound a tube of wood four inches diameter, and open at both ends, should be introduced, the object being to let the extreme heat pass off from beneath the roots. If the plants have been previously prepared, they may now be turned out of the pots, and planted in the "hills," or the seeds may be sown in the same places. With the variations of the weather, these beds work very unevenly in temperature, which makes a covering of boards around the sides of much service. At night, the glass also will have to be covered by straw mats or shutters, and if, with this, the thermometer happen to range too high during mild changes, the glasses may be tilted a little for the time being. In

a week or two, the roots will begin to push out beyond the sides of the hills, and more soil will be required from time to time, until the first uppermost level is obtained over the whole surface. Air will have to be admitted according to circumstances, and it is best to do this by propping up the sashes. Let the temperature range from 60° to 65° at night, and 75° to 85° by day. Stop the ends of the shoots, and prune as before directed. It is requisite to give a slight shade during strong sunshine, while the plants are young, but, by gradually withholding it, they will, after a time, bear any amount of light. As the season advances, and warm weather comes along, the glasses may be opened accordingly, until, finally, they can be entirely removed, and the plants will continue to bear most, if not all the summer.

Dung-beds, during fermentation, give off moisture, which is absorbed by the soil above, and, of course, at the commencement, there is not much water required; notwithstanding which, it will have to be applied occasionally, but never when rain-storms are present. In fact, it is this kind of weather that makes the greatest difficulty with dung-beds, and, on this account, it is not advisable to begin with them sooner than the middle of February; but adopt the above-mentioned method, if it be desirable to have fruit in the winter months.

GREENHOUSES OF J. McCALL, ESQ.,

STATEN ISLAND, N. Y.

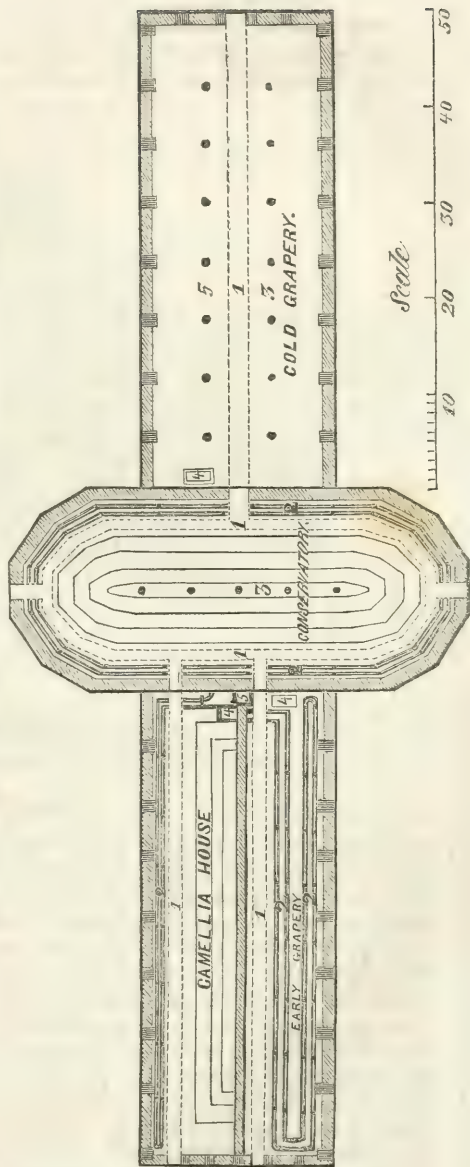
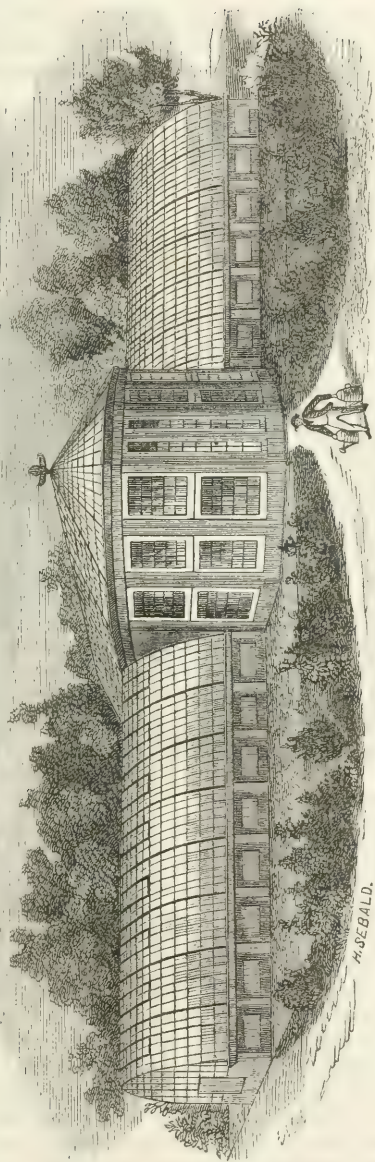
NEW BRIGHTON, *Staten Island.*

J. J. SMITH, Esq.

DEAR SIR: Inclosed I send you a perspective view and ground-plan of a collection of horticultural houses, designed by myself, for J. McCall, Esq., Staten Island, and combining beauty of exterior with practical utility. In this case it was required to have an early and late grapery, a large general conservatory, and a suitable apartment for camellias, and other polished leaved greenhouse plants, which are subject to be scorched by the rays of midday sun. The most available site was on a level plot, so situated that the longitudinal extension of the structure should be east-southeast, and west-northwest. It was also desirable that no part should appear as "sheds" or other like nuisance, consequently the ordinary conveniences are provided for by a cellar, forty feet long by nine feet wide, being sunk under the northwest part of the building, and which contains the two boilers and sufficient room for the winter's fuel. There are two cisterns, each fourteen feet wide by fourteen feet deep underground, and beneath the stage of the central house. Each house is furnished with a tank for tepid water, having a hose-coupling attached, with faucets so arranged, that one force-pump (which is fixed under the stage) answers all the purposes of drawing water from the cisterns into the tanks, or from any one of the tanks to shower over the whole or any part of the interior, at pleasure. The centre house is twenty-one feet wide by forty-six feet long, and seventeen feet from the ground level to the ridge. The two wings are fifty feet long by twenty feet wide, and fourteen feet to the ridges, which are on a level with the eaves where they join. The groundwork, making of borders, and planting, was executed by Mr. Nicol, the intelligent gardener, and from present appearances, future success is certain. The vines were one year old from the "eye," when planted, last March, and the greater part are now (August 11th) from twenty to twenty-five feet long, with proportionate strength of cane, and with good ripening, will be fully qualified to bear a light crop of fruit next year.

Most respectfully yours,

WM. CHORLTON.



PINUS HARTWEGI—HARTWEG'S PINE.

This species is a native of Mexico, where Hartweg discovered it on Mount Campanario, growing at an elevation of 9000 feet, and ranging immediately above *Picea religiosa*. It forms a tree of moderate size, with leaves six inches



Pinus Hartwegi.

and upwards in length, of a pale green, and covered with a glaucous bloom. Although this Pine belongs to the five-leaved section of *Pinus*, it is often found with four only in a bundle. The cones are four to five inches long, and pendulous. Many of the species in the group to which Hartweg's Pine belongs are remarkable for the length of their leaves; and this, there being five in a sheath, gives them a peculiar and striking appearance, and as such they are much prized by collectors. Unfortunately the winter of 1853-4, and the following one, proved fatal to many of the handsomest kinds, and they may be pronounced too tender for the English climate. Of this section, we lost from our collection *leiophylla*, *Winchesteriana*, *Gordoniana*, *filifolia*, *Russelliana*, *Devoniana*, *Grenvilleæ*, and even *palustris* (*australis*); while *Hartwegi*, *Montezumæ*, and *apuleensis* of the long-leaved species survived. And we find pretty nearly the same results happened in other *Pinetums*. This greatly enhances the value of those which have turned out to be hardy; among them *Hartwegi*—which is now the finest of the long-leaved species, capable of enduring our winters, excepting, perhaps *P. microphylla*.

No collection of *Coniferæ* can be called complete except it contains our present

subject, which, even in a young state, has something grand and striking in its appearance. Although the soil should be naturally dry or well drained for growing it, it prefers a good, rich loam, rather heavy than otherwise.

In composition, this section should be grouped together, as they do not harmonize well with the short-leaved kinds. Planted in this way, and in appropriate situations, they will form a striking mass, very distinct from anything else.

Our engraving was taken from a fine specimen in the Pinetum at Nuneham Park, near Oxford.—*London Florist*.

[This pine was destroyed last winter at Wodenethe, but would be a very valuable acquisition at the South.—Ed.]

THE EFFECTS OF THE COLD.*

BY WM. BACON, RICHMOND, MASS.

AUTUMN seems like a late and "after the fair" period, to speak of the results of a gone-by winter; yet the effects of such winters as the last are not always sufficiently developed to warrant an opinion with regard to them until the brief spring which follows has passed away, and summer, that, in consequence of spring's brevity, has so much of the work of two seasons to perform, has had an opportunity to exercise its resurrection influence, and tell us what is coming into hopeful life, and what is dead beyond all recovery.

Our last winter, among the Berkshire Hills, was long and uniformly cold. With us, however, the mercury did not realize the depression that it often does in milder and briefer winters. Its lowest mark, by our observation, was 20° below zero, or 2° and 4° less than was the case in several preceding winters. We had no thaws worthy of the name until late in March, and the number of times from December 25 until that period, when the mercury rose above freezing, were few as well as brief. The quantity of snow, if it had lain level, would have measured from three and a half to four feet, according to localities. But, in most situations, it was badly drifted; consequently, highways and gardens had a large supply. In the latter, it served as a beautiful protection to tender plants, insomuch they wintered finely under its cover, though it was rather severe in breaking down young trees, especially dwarfs.

In consequence of winter's closing in by a fall of snow upon unfrozen ground, the advance of spring, so far as the dying away of mud was concerned, was rapid. But the departure of the snow, and the settling of the ground, did not bring warm weather. Cold and chilling northerly winds prevailed through May, and, in consequence, the progress of vegetation was slow and unhealthy.

But, to mark the effects of the winter, small fruits, such as strawberries, raspberries, currants, &c., never passed its ordeal better. So with roses and all flowering plants and shrubs that were covered with snow. Above this snow-line, however, all but the more hardy kinds were killed.

Peach-trees suffered most severely of all our fruits. The last year's growth gave out their feeble blossoms and died, so that the trees, until the last of June, looked more fit for the brush-heap than the garden. Many were cut down, but in most cases where they were allowed to stand, they (unless in very old trees) threw out new shoots, and, by the middle of August, assumed appearances of hopeful thrift, so that we anticipate future crops from them. The peach gave no fruit.

* This interesting article was intended for a former number, but was crowded out; it has, however, lost by a short delay, none of its value.—Ed.

Plums, in some localities, were entirely destroyed. These losses were not peculiar to old and decaying trees, but we saw whole rows of young trees, which were vigorous a year ago, that gave no sign of verdure this year. These losses were greatest in partially sheltered localities. Next to the peach and plum, the cherry was the greatest sufferer. Some few trees in the circle of our observation were lost, but the damage was principally in the loss of the later growth of last year. The quantity of cherries was moderate, very.

Pears.—The trees stood the winter without any apparent injury beyond the breaking down of branches of small trees by snow. They gave a fair amount of blossoms, but in consequence of the continued cold winds while they were in bloom, but little fruit set—such as matured was perfect in its kind. The trees have made a fine growth the last season, and give a reasonable prospect of abundance of fruit in future.

Apple-trees wintered well, the only drawback being the depredations of the mice, which is perhaps as much attributable to a want of care on the part of the owner as to any peculiarity of the season, though the great length of the winter probably had a tendency to increase their appetites beyond the supplies they had provided for the exigencies of the season. Unlike their usual mode of warfare, which confines their depredations mainly to grass lands, they pitched battle on trees on grounds where hoed crops had been taken off, and were sometimes more destructive there than in grass plots. The simplest preventive we know of for such cases, is to stamp the early snows thoroughly around young trees.

The apple orchards bloomed abundantly, but a succession of cold northerly winds, almost amounting to frost, continued from the first opening of the buds until the petals fell. These winds were fatal to the general crop, so we have but very few apples, and these are principally on the sides of trees, and in orchards most effectually sheltered from these winds—localities where ordinary frosts which collect in the still, cold air would have been fatal.

In view of these experiences, we can see no particular cause for the fruit growers to be discouraged in their labors. The pear and the apple have given us a new and very cheering assurance of their adaptedness to our soil and climate, and if they have failed to produce the usual amount of fruit for "this once," it was owing to causes seldom existing rather than to anything in the ordinary course of nature. The peach has shown itself capable of standing a long-continued severity of uniform cold, and yet expand its pink blossoms to the sun. Had winter closed her frozen reign at the ordinary period, and spring come on with her glad sunshine and warm breezes, these blossoms might have matured into fruit, and the long-confined branches might have given forth beautiful and healthy verdure. Be this as it may, however, let no one neglect to cultivate the peach, though timidity may induce it to be done in a small way. The plum has failed to some extent as the result of the season, but the loss on this account is small, indeed, compared with that entailed by the yearly depredations of insects. The season showed marked effects on our native evergreens as well as on our delicate fruits. The hemlock, the pine, and the kalmias, in their native soil, in many instances exhibited their dried leaves as though a fire had passed through their branches. So it was not the exotic—the far-fetched and dear-bought alone—that suffered the influences of a season which those of us who witnessed it will not be likely to forget.

FOREIGN NOTICES.

THE SAVINE.—*Juniperus Sabina* is a splendid lawn plant, when left to take its natural growth in an open space and kindly soil. A plant on my lawn, twenty-five years old, measures twenty-two yards in circumference. Its branches radiate from a single stem, which is invisible in the centre, feathering all round, without gap or blemish, down to the grass, and rising only about three feet in the middle. It is at all times a pleasing object; but in the spring, when it has put forth its tender shoots, or in the autumn, when bespangled with dew, it is particularly beautiful.—*M. R. Townshend.*

LET HENS SIT WHERE THEY CHOOSE.—I have long been a keeper of poultry, and an observer of their habits; and I have arrived at the conclusion, that hens are most prolific when left to their natural instinct, as I think the following interesting circumstance will prove: One of my hens (a pullet of a late brood last year) formed herself a nest among the ivy on the top of a wall nine feet high, and on Sunday last, August 31, from sixteen eggs brought out fourteen strong, healthy chickens of every color, though the hen is a cross between the Gold-Pencilled Hamburg and the Gray Dorking. During the time of sitting, she was several times exposed to violent storms, and the wall faces the high road, with constant traffic.—*Wistaria.*

MODE OF PREVENTING FOWLS FLYING OVER FENCES.—Recently, I described a ready mode of preventing pigeons flying, for a few days, by soaping one wing. I now wish to call attention to an equally efficacious plan that is adapted to fowls. Being on a visit to a friend, I noticed a hen with the appearance of having a wooden yoke across her shoulders. On inquiry, he informed me that it was a New Forest plan of preventing the flying of such of the lighter and more active varieties as it was wished to keep within bounds. It consisted merely of a piece of light, thin lath, about two inches longer than the width of the body. Two pairs of opposite notches were cut in it, the distance between the pairs being the exact width of the body of the bird. In these notches a piece of tape was securely tied, leaving the ends free; the lath was then placed over the back, and secured by tying the loose, free ends of the tapes under the wings close up to the body, taking care that they were not tied so tightly as to cut into the flesh. This contrivance offers no impediment to the movements of the fowl until it attempts to raise the wings for flight, when they are checked in their upward movement by the projecting ends of the lath, and flight is consequently impracticable. This plan is superior to running the scissors down each side of the primary quill feathers of one wing, inasmuch as the fowl is not disfigured, and it is, beyond all comparison, better than the unpleasant practice of cutting across several of the quills, which destroys the appearance of the fowl, and leaves an ugly set of stumps, which moult out with difficulty.—*W. B. Tegetmeier.*

THE HYACINTH.—There is hardly a flower in cultivation so generally a favorite as the hyacinth, and certainly not one which so gratefully repays the attention bestowed upon it. There is not a medium capable of retaining moisture but it will grow in, and it will give us as good a bloom when planted in wet sand as it will in the richest compost. Many people ought to be thankful for this spring visitor, from those whose delicate hands put the finish to the beautiful stands which grace the drawing-room, to the salamander-like men who, in

a heat that would broil a steak, blow the thousands of glasses employed to grow them in water. There is not a smoky hole in the most confined manufacturing town in which the hyacinth will not bloom, if allowed moisture of some kind in which to lengthen its silvery roots. If we calculated by the means required for its growth, instead of the price of a root, it might truly be called the poor man's flower. There is scarcely an individual who is permitted to live in daylight, but may indulge himself with two or three, if he be fond of flowers, and they will afford gratification till the bloom is over. Let everybody who can raise three flower-pots, or three hyacinth glasses, buy a bulb of each color, and they will have flowers—ay, if they grow them in a smoky attic, or a still more smoky kitchen.

THE SKIRRET is a garden vegetable, well spoken of in the *Revue Horticole*, but little known here. It belongs to the family of Umbellifers, and is a perennial plant, with bunches of fusiform, fleshy roots, from six to ten inches in length, and from three-fourths to one inch in diameter, somewhat crooked, of a russet color externally, the flesh being white. It is one of the richest alimentary roots; its flavor is slight, slightly resembling celery; is good fried and for soups. Its produce is enormous, and efforts are making to introduce it in place of the potato.

OXALIS BOWEL.—It may not be generally known that this succeeds well as a bedding-plant. It produces its beautiful rose-colored flowers in great profusion, until destroyed by frost in autumn; and when planted in contrast with other gay colors, I have always found it to be greatly admired. The bulbs should be potted the third week in March, and plunged in a gentle bottom heat. I put three bulbs in a three-inch pot; when they have grown about two inches, I shift them into four-inch pots, and gradually harden them off in frames with other bedding-plants. They are planted out about the middle of June, by which time they will be nicely in bloom; it is necessary to support the flower stems with small stakes when first planted out, for if this is not done, they are liable to be blown off. Until the plants have established themselves firmly in the ground, a situation rather sheltered from the wind, and well exposed to the morning sun, should be chosen for them, as they show themselves to most advantage during bright sunshine.—*William Adderley*.

GREEN-FLY.—It has often struck me that your readers might do good service to each other if they would, from time to time, record in your paper the various successes or disappointments which they meet with. For instance, no amount of smoke has ever satisfactorily got rid of the green-fly in my houses. Frequent fumigation kept my geraniums, &c., tolerably clean, but the pest still existed. This year, I have immersed all my plants in a mixture of tobacco, one-fourth pound; soft soap, one pound; water, five gallons; and, although it is now more than four months since they were dipped, I have searched in vain for a single green-fly when cutting them down.—*Iota*.

SALE AT CHISWICK.—Some of the plants sold here, on Wednesday, realized fair prices, as will be seen by the following account of a few of the lots: *Mammillaria globosa*, *Cirrhipera* and *Ariceps* brought 1*l.* 6*s.*; *Gasteria conspurcata*, a species of *Aloe*, and *Agave filifera*, 1*l.* 12*s.*; *Polygala Dalmaisiana*, 10*s.*; *Theophrasta Jussiei*, 3*l.* 3*s.*; *Pæonia Moutan salmonea*, 3*l.* 5*s.*; *P. M. atrosanguinea*, 5*l.*; a variety of *P. M. versicolor*, 5*l.* 10*s.*; and a variety of *P. M. atropurpurea*, 3*l.* 10*s.* The Chinese Tree *Pæonies* produced, on an average, about 2*l.* each.



EDITORS TABLE.

LIFE OF J. C. LOUDON.—We have long wished to present this biography of one of nature's noblemen, and the greatest writer on the topics of horticulture, to the American public. By dividing it into three numbers, we trench but little on the ground devoted to our correspondents, who will, we are confident, pardon a little delay for the pleasure of perusing this very graceful "story of a life."

In many respects, Mr. Loudon resembled our own Downing; the same enthusiasm and love of horticulture, the same indifference for mere money matters, and indomitable perseverance in writing, when other affairs pressed for attention, mark the career of each. Mr. Downing, however, entered more thoroughly into descriptions of the pleasures of the mind; Mr. Loudon was engaged in the useful. The account of his sufferings, and the curious circumstance of his writing his greatest works with his left hand, and that seriously mutilated, are entirely novel in the whole history of literary effort. This life, which appeared in a posthumous edition of his *Instructions for Gardeners*, has never before been printed in America.

Mr. Loudon's works are still standards, and continue to be extensively sold, more especially his *Arboretum Britannicum*, which was the cause of his pecuniary ruin, and his *Encyclopædia of Plants*, to which a supplement has just been issued, bringing down this most laborious and invaluable work to the present day.

FRANÇOIS ANDRÉ MICHAUX.—The death of this distinguished botanist and writer on American forest-trees, took place at Vauréal, near Pontoise, France, in November, 1855, as has already been announced. His will proves to be of very great interest to America; he leaves twenty-two thousand dollars to the American Philosophical Society and the Massachusetts Agricultural Society, fourteen thousand dollars to the former, and eight thousand dollars to the latter, for the purpose of promoting silviculture and horticulture, and of making experiments on the growth of trees in "sandy, rocky, and bog soils." The principal portion of the bequest is to be invested for income in good farm land; cheap and unproductive land is to be purchased with another portion, and the remainder is to be appropriated to seeding and planting the experimental plantations. We look upon this bequest with peculiar interest; the liberality of a foreigner in thus considering the benefit he can confer upon our country, strikes us as something unique and highly creditable to the donor, as well as being of rare advantage to the world. It should, and probably will, teach great lessons of practical knowledge. The widow of the donor, who is advanced in life, has a life estate in the money.

It will be in the memory of some of our readers, that we stated some months since the destruction by fire of the entire edition of letter press of Michaux's great work on trees; the engraved plates, however, were saved, and the stereotyper has been since engaged in preparing a new and greatly improved edition, which will be ready for delivery in a short time, in company with the *Supplement* of Nuttall, making, together, five superb royal octavo volumes, with elegantly colored plates. A sixth may hereafter be added containing the newer discovered California trees.

Gossip.—It was the boast of Lucullus that he changed his climate with the birds of passage; but how often must he have felt that the master of many houses has no home.—If alchemy was an error, says the Westminster Review, "it bore a precious jewel on its head," which has lighted men on the difficult path of discovery. By the very necessities of the case, it coerced the minds of men into studies repulsive and difficult—it forced them to create the Experimental Method—it forced them to become accurately acquainted with all substances, and it furnished them with the means of elaborating a science, the marvels of which may fairly be said to surpass the wildest dreams of any alchemist.—If the introduction among us, says Punch, of horseflesh, as an article of food, is effected, it will probably become necessary, in ordering a steak at a chop-house, to tell the waiter whether you mean a rump-steak or a sweep steak!—Since the use of steamships in commerce, oranges have become an item of immense export from the Continent to England; 200 departures of steamvessels from one port yearly are on record, taking 200,000 boxes of 1000 oranges each. England imports 300 millions of oranges each year, of which 100 millions are consumed in the metropolis; 20 millions of lemons are also consumed, the principal vendors being of the Jewish persuasion. Paris absorbed 4,906,320 oranges and 3,336,100 lemons in 1855.—There is a beauty which the Italian poplar possesses which is almost peculiar to it; and that is the waving line it forms when agitated by the wind. Most trees in these circumstances are but partially agitated; one side is at rest, while the other is in motion; but the Italian poplar waves in one single sweep from the top to the bottom, like an ostrich-feather on a lady's head. All the branches coincide with the motion, and the least blast makes an impression on it when other trees are at rest.—The substance which exudes from *Juniperus communis* is the gum sandarach of commerce. This is powdered, and is then known as *pounce*, an article formerly in much use to fill scratches made on paper when erasures were required.—The twigs and leaves of Yew, eaten in a very small quantity, are certain death to horses and cows, but to deer, sheep and goats and birds they are innocuous. The leaves are fatal to the human species, though the berries are not; the Yew is propagated from the latter, sown as soon as they are ripe; or mixed with sand, and laid in a heap, to be turned over two or three times during winter, and in spring, the seeds from which the pulp will have rotted, are sown in beds of light loamy soil. By either mode, a part of the plants will come up the first season, and the remainder in the following.—The oil of nutmegs is highly narcotic; the grated nut taken in too large quantities produces drowsiness, great stupor and insensibility, and on awakening, delirium.—The *Clematis* flourishes best when planted on a dry subsoil, in a mixture of peat and loam, and all the varieties may be freely increased by layering the shoots from July to October. The generic name is from the Greek, *selema*, the climbing tendril of a vine, which this plant resembles in habit.—A machine for digging potatoes is in successful operation in Scotland and Ireland. It consists of the framework, coulter, share and mould-board of a common plough: by a pinion working into a wheel which acts as sole-plate in taking the weight of the plough, motion is given to a set of revolving forks placed so as to operate on the furrow slice just as it leaves the turn furrow. These forks fairly disintegrate the whole mass of earth as it is lifted, and scatter the potatoes it may contain over the surface of the ground on which the plough has already operated.—Lovers of plants begin to prefer graceful forms to mere spots of color, and this is considered as a satisfactory evidence of a great general advance in good taste.—Agriculture in France holds the first place in the production of national wealth: it employs 25 million hands, and produces in value, every year, upwards of 3500 millions of pounds. This immense mass of produce, in which Wheat figures to the amount of 55 million pounds is, nevertheless, not sufficient to prevent the country from going abroad to make up the necessary supply of grain. We have said, elsewhere, that good authority indicates the same thing as likely soon to occur in Ohio; if in France this is true, why

should we doubt it in agricultural States here?—A proposal is on foot for a testimony to Mr. Meehi, of Tiptree Hall, England, who has done so much for agriculture.—The advance of science is marked by the circumstance that in 1696 the Grand Duke of Gotha assembled a council of learned men to tell him what the bones of a fossil elephant were, and they unanimously declared they were sports of nature. The bones of a mastodon, found in Dauphiny, were exhibited in Paris by a surgeon, as the remains of a giant!—It has lately been a subject of discussion whether honey made from *Rhododendron ponticum* flowers is poisonous or not, and the belief is entertained that it is not, while that made from *Azalea pontica* is highly dangerous.—Dr. Lindley closes an article in a late *Chronicle* on grape-houses with the remark, “Blood, flesh, and all such substances make vines rank, difficult to ripen, and predisposed to mildew and any other disease.”—C. F. Otto, late Director of the Royal Botanic Garden, at Berlin, to whom we were indebted for unbounded civilities in 1850, died in September last. He was the author of five or six works on botany, forest culture, and on the cactus tribe, but was most distinguished as the editor of the periodical *Allgemeine Gartenzeitung*, in connection with Dr. Albert Dietrich. A genus among umbelliferous plants was named *Ottoa* in honor of him.—Too much stress is sometimes laid upon the necessity of having elegant apparatus for teaching science. A man who is eager to learn—who is determined to know his subject—may, if he be at all handy, or with the assistance of the village carpenter or blacksmith, extemporize his apparatus. Polished mahogany, and expensive brass work and complicated adjustments, are not at all essential. It is told of the celebrated philosopher, Dr. Wollaston, the inventor of the method of rendering platinum malleable, that when a continental chemist of some celebrity called on him and expressed a wish to be shown over the laboratories in which science had been enriched by so many important discoveries, the doctor took him into a little study, and pointing to an old tea-tray on the table, with a few watch-glasses, test-papers, a small balance, and a blow-pipe on it, said, “There is all the laboratory that I have.” Again: is music any better for emanating from expensive rosewood or mahogany?—The prodigal son desired to eat of husks given to swine. This is supposed to allude to the fruit of the locust-tree, part of the diet of the Baptists in the desert. The ancients made wine of this locust, and gave the husks to pigs; being by no means a tasteless or unsatisfying offal, it might well be desired by the prodigal, in his hunger.—Jewish tradition considers the citron, and not the apple, to have been the fruit which our first parents tasted in Paradise.—When the dove sent out of the ark returned with a green olive leaf, it had remained, after ten months, green; this has puzzled some simple writers who did not reflect upon its nature; the leaves are of a bitter taste, and of a lasting substance, keeping a very long time.—Cosmo de Medicis delighted most in his Apennine villa, because all that he commanded from its windows was exclusively his own. How unlike the wise Athenian, who, when he had a farm to sell, directed the cryer to proclaim, as its best recommendation, that it had a good neighborhood.—A few friends are all that a wise man would wish to assemble; “for a crowd is not company, and faces are but a gallery of pictures, and talk but a tinkling cymbal, where there is no love.”

TWO NEW VARIETIES OF FRUIT are mentioned in the *Gardener's Chronicle*, as follows: “The first is a black grape, of most excellent quality, thin skinned, not a Muscat, earlier than the Black Hamburg, and having the valuable property of hanging late without shrivelling. Its leaves are middle-sized, thick, and capable of bearing even such a sun as we experienced last July, when the foliage of so many other vines suffered seriously. Its origin is unknown. In appearance, it somewhat resembles the Black Prince, but the flavor is much more delicate, and the berries are longer. The two diameters are as twenty to fourteen in this, but as seventeen to fourteen in the Black Prince, a very great difference. Mr. Rivers, who has

seen it, conjectures that it is some foreign variety allied to the Amella or the Gros Saper; but as this is very uncertain, the variety may be called the Trentham Black.

"The Melon, which will bear the name of the Trentham Cocoa-Nut, is much like that fruit in form and size, and is remarkable for combining a very thick, hard rind, with an abundant white, delicate flesh, like that of the Trentham Hybrid Persian. This being the case, it possesses great value as a keeper, or for travelling long distances. It is reported to be an abundant bearer, being hardy and robust in its growth. We understand it has been found still fit for table at Christmas."

ROSES.—If we are surprised to hear that a peach-tree may and does attain a much larger size than a man's body, we might be still more astonished to learn that the "apple bearing" rose-tree measures sometimes a foot and a half in circumference, with a large umbrageous head like an orchard apple-tree of 20 years' growth. One has lately fallen, crushed by a fall of snow, at Sawbridgeworth, of this extraordinary size. Mr. Rivers, when noticing this in the *Florist*, adds that no new roses approach Prince Leon or Jules Margottin, in color, form, or habit. He says, also, that "there are nearly forty new roses sent out last autumn by the French florists; most of these are Hybrid Perpetuals, twenty of which are described as having shades of rose color, six shades of crimson—three or four of these are seedlings of the Géant. There are also two new Summer Moss Roses by Laffay, both of which are rose colored, and a new Perpetual Moss by him, described as 'rouge vif centre rouge violacé, superbe.' Three new Noisette Roses are also offered, one white, another a seedling from Lamarque, 'd'un beau jaune canari,' another crimson partaking in its habit of the Bourbon family. Three new Tea-scented Roses are to be sent out—their characters as described are an 'oft-told tale.'

"We still lack a fine crimson Tea Rose, a pure white Hybrid Perpetual, a yellow ditto, a good crimson *Rosa sempervirens*, a yellow Moss Rose, and some others, so that there is a good field open to Rose growers."

The following remark, by Mr. Rivers, will find many responses:—

"There is one remarkable peculiarity attending the cultivation of Roses; they never seem to fatigue the mind of the amateur; in youth, in the vigor of manhood, and in old age, their cheerful brilliant tints are always grateful, their perfume always exhilarating. I have only remarked a slight drawback; one, after thirty years of admiration, is apt to become fastidious, and to require great perfection in shape, in color, and in habit. I now scan a new Rose with a most critical eye; at one time a trifling difference in a Rose, if it were a new feature, was hailed with ecstasy; times are now changed, but then, Roses never were, as far as we know, so beautiful as they are at the present day."

ROSES IN WINTER.—D. Beaton, one of the best gardeners and writers for the *Cottage Gardener*, says, respecting the treatment of roses in winter, in the open ground:—

"The philosophy of the thing stands thus: All the cultivated roses like a *cool, moist bottom*, but no standing wet; and all the standard roses *on grass*, ought to get a good spadeful of right rotten dung every winter of their lives, and as much water in summer as will keep the space occupied by the roots constantly moist. The present hole in the grass system can only allow a make-believe in all those essentials, and no more.

"The manner of doing is this: The rose-trees, perhaps, are planted on the grass already; but you may know, from the rusty-brown leaves, that they are three parts starved. Open the grass in a circle of a yard across round each rose; then scrape off the soil carefully till you find the roots. When you find the roots, pour two large watering-potsful over those of each tree; then put two or three inches of very rotten dung all over the roots; water again with the rose put on the spout of the watering-pot, and pat down the dung with the back

of the spade. Now, the dung is just level with the grass, or nearly so, more or less, and you must keep it out of sight. Any good, light garden-mould will do to cover the dung; let it be full three inches deep, or rather more; and, to keep up the sides from the grass, you must use an artistic edging to give dignity to the whole. What we use is the best and cheapest burnt brickbats, and whole bricks of a dark gray color, such as are too much burnt in the making; but stones would be as cheap, or cheaper, in many places, and stumps of larch poles, or of any other poles, would do if cut into six-inch lengths, and sharpened at one end, to be driven down two or three inches close to one another all round. The soil is as high as the top of the edging; ours is four inches high, and quite level on the top, or, rather, with a hollow towards the stem of the roses. Three nice *Tom Thumbs*, and three equally good *Calceolarias* out of about 48-sized pots, will fill one of these beds except the edging. As we do not go quite close to the rose stem, *Oenothera prostrata*, all the little blue *Lobelias*, *Campanula fragilis*, *Garganica*, and two or three more of them, and many more such 'tit-bits' will do for edgings."

NEW FRUIT, &c.—At a late meeting of the London Pomological Society, Mr. Rivers exhibited a *Raspberry*, produced from a plant which had been raised by crossing the raspberry and blackberry, or bramble. The plant has all the habit of growth of the common bramble, does not throw up suckers, and produces fruit most abundantly, but it is the size and texture of the raspberry, and the flavor, though like the latter, is much more lively and piquant; the fruit is of a dark purple color. It will be not only a curiosity, but useful for the dessert at a late period of the season.

"At the Clapton Nurseries," says the *Cottage Gardener*, "they grow the *Meyenia erecta* by the thousands, and sell it by the dozen for 'planting out' in the South of Ireland, first for its bloom, and next for its young shoots for making baskets with. There is no end to the numbers they have of it for English and Scottish greenhouses, and warm conservatory and mixed borders during the summer; but for stove cultivation they say it is not at all suited.

"*Thysacanthus rutilans*, the finest winter-flowering stove-plant we have, is here treated just like a half-hardy plant, and like *Meyenia erecta*; but in Ghent and Brussels they get it from cuttings early in the spring, and turn it out of doors all the summer. In the autumn it makes a kind of Love-lies-bleeding fringe round the Orange-tubs, the little pots standing in a circle inside the tub, and the drooping, crimson fringe hanging all round.

"The *Clerodendron Bungii*, or *fatidum*, is all but hardy on the Continent, and ought to be more so in England. It dies down like a Fuchsia for the winter, and blooms freely on the young summer growth, just like the Brugmansias, where they are taken good heed to.

"The lovely *Sonerila margaritacea*, a dwarf, spotted-leaved Melastomad, comes from cuttings in nine days, and in sixteen more days is fit for the market, and worth from thirty to forty penny-pieces. The dearest is the cheapest in the long run.

"They have a large stock of a new hardy *Oak* with fern-like leaves, got over from Mackay, of Liege, who seems to graft them as easily as apples and pears. Twenty years ago these would cost £5 a piece, owing to the difficulty of increasing them. Now they 'come out' cheap as bedding variegated geraniums.

"White *Glycine*, or *Wistaria Sinensis*, from eyes grafted on the roots of the old one, and come as freely as leaf and bud geranium cuttings. This led to a secret of great importance. The whole of the *Kennedys*, *Zichyas*, and such like, will graft on the roots of *Wistaria*, and grow to double the usual size as conservatory climbers. The continental mode of splitting the crown of the stock seems the easiest and best way for this root grafting also.

"A new hardy *Oak*, which came from the Alps of Bhootan, promises to be one of the finest for park scenery, being exactly intermediate between an Oak and a Spanish Chestnut in the leaves. Quantities of *Pinus filifolia*, one of the finest of the long-leaved kinds, but

not quite hardy. *Pinus orientalis* looks much like a young spruce. *Chironia glutinosa*, so covered with bloom that it ought to make a good bedder *in peat* to come in after the Scarlet Crassulas.

"Now to the *Camellia* and *Azalea* ground. They stand the *Camellias* in beds, with the highest plants in the middle row, and then fall down both ways as the roof of a house. The whole look like ridge-and-furrow, and comprise 7,000 plants, from one to four feet, all best kinds, and at from 21s. to 60s. per dozen. Three thousand Chinese *Azaleas* next to them, and the next all the *Pompones* and *Chrysanthemums*.

"A *Weeping Birch*, the first of them in England, used to be crowded with 'stocks' of common Birch to inarch on; but that practice is given up now, and one great branch of the tree is trained down to near the ground, and the young wood is layered, and thus *Weeping Birches* on their own roots are obtained at less bother, and far better for the planter. The original appeared first in the collection of M. Soulange Baudin, of Paris, and the tree is about as great an ornament as any one could find in an Arboretum."

WINDOW PLANTS.—The cactus tribe are well adapted for window plants; among their advantages over other house plants, they require but little attention while out of flower, make no litter or leaves, and are not very apt to be infested with insects. Some of them afford a magnificent display of blossoms, and, when properly treated, will amply repay the slight attention they demand. The injury most frequently inflicted on them is improper attention in watering them. In the tropical regions, where they are indigenous, they are often without a drop of water for a length of time, whereas, uninformed window gardeners too often make it a practice to supply them once a week the year round.

The *Cactus flagelliformis*, with long, tail-like shoots, of a pale green, covered with short spines, produces a number of pretty, star-formed, pink flowers, and is one of the best window plants. It may be suspended about the middle of the window, in a pot laid on a board, and provided with a saucer, or trained to a light trellis. The *Cactus truncatus* and *C. truncatus violaceus*, trained on a trellis, form charming plants when in full bloom.

Besides the above, several others do well in windows, such as *C. speciosa* and *speciosissima*, *Euphyllium Ackermannii*, and many hybrid varieties of *Mammillaria*, *Aloe verrucosa*, and the Partridge-breasted Aloe. *Mesembryanthemums* are also a servicable class, more especially *coccineum*, *aureum*, *muricatum*, *tigrinum*, and *dilatatum*. *Crassula coccinea* will show abundance of its rich scarlet blossoms, almost too dazzling to look upon. Water must be withheld until near their natural time of blooming, when it may be given about once in ten days or a fortnight, until they cease flowering.

At Dr. Edmonson's, near Baltimore, we saw lately a conceit that forms a pleasing variety. Pots with cactus roots were hung about the greenhouses with other cactus plants grafted through the opening in the bottom of the pot, from whence they hung down in fantastic forms!

GARDENS FOR CHILDREN.—Children's gardens are now the fashion in Germany, and have been successfully introduced into London. A practical guide to the English Kintergarten, has been issued by the "Council of Education," and a monthly journal was commenced in May last by Mr. and Mrs. Ronge, who have established an institution for the training of teachers, young ladies, and nurses; their form of education is introduced into the wealthy families in aristocratic quarters. Nothing could promise better both for youth and age.

CALIFORNIA is determined to exceed every other section of the Union in the size of its fruits, &c. At the last annual exhibition, they record a Duchesse Pear, weighing two and three-quarter pounds, a beet, weighing one hundred and three pounds, and a cabbage, fifty.

CATALOGUES RECEIVED.—Robert Buist has sent us his Catalogue for the Spring of 1857, which, as it contains his own observations on evergreens, &c., we shall notice at some length.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, Evergreens, &c., cultivated and for sale at Fruitland Nurseries, Augusta, Geo. By D. Redmond. A most full and excellent collection of plants, and a very accurate catalogue.

Catalogue of Fruit and Ornamental Trees, Vines, &c., cultivated and for sale, by Isaac Pullen, near Hightstown, Mercer Co., N. J.

Prince's Catalogue for 1856 and 1857.

Register of Rural Affairs and Cultivator Almanac for 1857, with one hundred and thirty engravings; Number 3. Albany, Luther Tucker & Son. A *résumé* of the intelligence of the past year adapted to the coming one, and a very excellent compilation, and a good almanac combined.

The Aquarium and Wardian Case, by Shirley Hibbard, has been published by Dix, Edwards & Company. It is a lucid account of the mode of keeping the smaller inhabitants of the sea and the river in glass cases at home, and of Dr. Ward's mode of growing ferns and other plants in the parlor in sealed glass cases. It is a beautiful volume, and will be read with great interest.

Proceedings on laying the corner-stone of the Library Edifice for the Free Public Library in New Bedford, Mass. Highly interesting and progressive are these proceedings; our own Loganian Library, in Philadelphia, and this new institution, are said to be the only *really free* public libraries in the States. Matthew Howland, Esq., will accept our thanks.

Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, cultivated and for sale at the Persimmon Grove Nursery, Princeton, Bureau County, Illinois. By Arthur Bryant.

THE *Araucaria imbricata*, at Dropmore, England, has attained the height of thirty-eight feet two inches; diameter of branches, twenty feet; girth of stem, five feet. This superb tree grows on a mound of earth, which is the proper mode for it. It is in most luxuriant health, clothed with branches down close to the ground, and forms a perfect pyramid. It would be *almost* worth while to move from the North to the South, if only to grow this beautiful object, before which we knew an American to be disposed to go down on his knees in admiration!

NECROLOGY.—William Yarrel, the naturalist, has lately paid the debt of nature. Both he and his father were newsmen; he has left a very distinguished reputation, especially as an ornithologist.

THE RED SPIDER.—This troublesome pest in orchard houses, &c., is thus to be got rid of, according to a most experienced gardener: Sulphur on hot-water pipes, and also on walls outside exposed to the sun, are great helps for keeping red spider down, if associated with a moist atmosphere, or a free use of the syringe. From the hot-water pipe, and from the hot open wall exposed to the sun, the sulphuretted fumes given off are what the spider does not like, and these will flit, if not kill him, when he would walk among pieces and particles of the dry, cool sulphur as gay and as happy as a cricket. Dry heat is, of all circumstances, his delight; but an atmosphere saturated with moisture, and impregnated with sulphur fumes, is his detestation. A strong heat, if not attended with corresponding moisture, might not greatly hurt the spider, even though sulphur was used. Unless in very cold weather, indeed, we can hardly see how the pipes could be heated to near boiling point, and a *close, moist atmosphere* be contained in the house in July, or even part of June. There is no difficulty in keeping a peach house clear of spider, during the growing and swelling

period, merely by keeping sulphur frequently on the pipes, with evaporating pans there also, and a moderate use of the syringe. Whenever the fruit is gathered, there is little difficulty in effecting a clearance. The house is kept rather close, and the trees are syringed several times a day with sulphur and lime-water, made by boiling a pound of quick-lime and a pound of sulphur in a gallon of water for a quarter of an hour, allowing it to settle, and pouring off the clear into a bottle, and then putting about a quartem, or a little more, but not more than half a pint, into a common-sized watering-pot full of water, and syringing the trees well over, above, and under the leaves. The mixture will be more effectual, but not so cleanly, if a little size and soft soap are added. The above is one of the most economical ways of getting the properties of sulphur at once to bear upon the insects. In extreme cases, and where syringing could not well be done, a pair of nimble hands, with a small sponge, would soon wash every leaf on a tree, and remove every insect on it. Where cleanliness was an especial object, the sulphuretted lime-water should merely have the size in it. About a quarter of a pound dissolved in a garden pot holding about four gallons of water, will not be too much. I have found it injurious to no plant to which I have applied it in such limited quantities; and when enough is in the water to make the stickiness just perceived, when a thumb and finger being wetted are placed together firmly, it will ease up the vital powers of every little insect to which it is applied. Even when the glue or size was used rather strong, the film formed on the leaf broke and fell off in pieces when dry.

A HINT FOR EXHIBITORS.—The *Cottage Gardener* has the following remarks on staging plants at exhibitions: "The managers here have introduced a new and grand improvement on the former systems of exhibiting plants; the greatest improvement, in fact, and the one which was most needed in our day. They offered £30 for the best staged collections of thirty plants, as a gardener would say; that is, for a collection of thirty plants, so placed as to give the best effect. Just the very thing which we have always held forth about flower-beds, vases, baskets, and all other accompaniments to the flower-garden. One man cuts out his beds at random, goes to a great expense to fill them with the best plants of the day, and yet fails, for 'want of eye,' to give the right effect to them. Another grows his plants into 'specimens' with the highest degree of skill, exhibits them for competition, or 'sets' them in the conservatory, or show-house, or in the living-rooms of his employer; or, may be, on the dinner-table, before 'all the company,' yet, for *want of an eye*, he fails to make the best of them; and, although he is the best gardener in that part of the country, his employers are dissatisfied, because they see such things 'in better style' with common people, who cannot afford to pay much for their gardening—the secret being, that the eye goes further than the purse in all such things—dresses among the rest. The Crystal Palace, as a school, is founded on the principle of teaching by the eye. Its Directors have placed all their own collections and creations on that principle, and now they offer the highest prizes to gardeners, to induce them to learn this principle, and to follow it out through the whole range of the 'establishment,' even to the setting of two pot-plants on the mantel-piece in the drawing-room, or on the window-sill."

SEEDS OF FERNS.—The naked eye, says Dr. Lindley, in the last *Chronicle*, cannot detect on the under side of a fern-leaf its seed-vessels; fern seeds are little angular bodies too minute to be visible, and are expelled by the spontaneous bursting of the seed-vessels, which then remain empty behind. When the brown dust from the back of a fern-leaf is sown, it may happen that it has no seeds among it, but consists entirely of fragments of the broken seed-vessels, and no success will follow.

"To obviate this difficulty, Mr. Saunders requested Mr. Wallace, the distinguished naturalist then at Singapore, to adopt the following method. A little moderately damp earth

being spread flat, the under side of a fresh ripe fern-leaf was pressed upon the earth, so as to detach the seeds and their seed-vessels. The earth was then placed in a vial, corked up and sent to England. The vial was six months on the voyage home; upon its arrival in mid-winter, its contents were sown in a shady damp hothouse. In a short time, the fern plants sprang up 'as thickly as mustard and cress,' and the plants are now successful.

"The process thus described is attended by the very important advantages of securing perfectly fresh seed, and of placing it during its passage home in a situation just as damp as is necessary to maintain vitality unimpaired. The only precautions needed are to be certain that the seed is ripe when pressed upon the earth, to take care that the latter is merely damp, not wet, when corked up, and to keep the vial in the dark. In this way all the ferns of the tropics may be now procured with the greatest facility.

"Some may think that we previously knew all about fern-raising, and that herbaria need only be ransacked to secure supplies of seeds. Never was a mistake greater. We are assured, indeed, that Willdenow raised various kinds of ferns in Berlin from seeds thus procured, and that two plants of *Gymnogramma calomelanos* were once obtained in the garden at Liverpool from seeds 50 years old taken out of the herbarium of Forster. Let us frankly own that we read these stories with incredulity; such so-called facts are open to great suspicion. Not that we presume to question the good faith of those who are said to have succeeded in the operation; quite the contrary; Willdenow, of Berlin, and Shepherd, of Liverpool, who thought they had done these things, were probably mistaken. They raised something—some sort of fern—but we are persuaded that the supposed result was owing to one of those accidents which all who are conversant with great gardens know to their cost are so common, or rather so inevitable, in such establishments. Some years ago, the late Mr. G. Loddiges sowed the seeds of some hundred of ferns preserved in an herbarium, and if any one could have raised them he was the man. But the attempt was a complete failure, the seeds would *not* grow.

"We do not mean to say that fern seeds taken from plants recently deposited in an herbarium will never grow. Probably they will. But success is uncertain, and it is far less trouble for a traveller to secure seeds in the way proposed, than to dry specimens for the purpose, even if, when dried, it were perfectly certain that they would grow. Many sorts might, at a pinch, be sent home in the same vial, either mixed together or separated by some little contrivance, and thus half a dozen bottles which would travel in a coat pocket would do well, a duty which a bulky package of dried plants would certainly do ill, if at all."

ELIZABETHAN ARCHITECTURE.—From a very pleasant new book, entitled "Shakspeare's England," by G. W. Thornbury, we extract the following passages:—

"The Elizabethan houses are wonderful in their individuality. They seem to share all the hopes and joys, and passions of the builder. They have sunny spots, caves of shadow, bright clear quadrangles, and gloomy corridors. There is no mood in your mind they will not fit. They have about them a calm stately dignity, neither self-conscious nor arrogant. They do not oppress you with a sense of wealth, but greet you like old friends. They are neither flimsy nor tawdry, nor so massy and dark as to remind you of a workhouse and a gaol. They seem fit for all seasons. They are cool in summer and cheery in winter. The terrace is for June, the porch for December. The bay window is so clear and airy that you could not believe the same house had that red cavern of a fireplace, the very shrine of comfort and warmth, hallowed both by legend and recollection. Alas! that one cannot order an avenue ready made, that one cannot purchase a genealogy. In these old houses the portraits frown at a mere purchaser as a stranger; the ghosts refuse to leave their churchyard beds to welcome or disturb you, and the very tenants look upon you as an upstart and an interloper." * * "The bay window, invented a century before the Tudor age, was at first simply a projecting opening between two buttresses, generally placed at the end of a room, and occupying the bay of a building. When placed at the end of a great hall, it reached in a broad crystal sheet from the roof to the floor. It sometimes consisted of

nine or ten stages, and at banquets was furnished with shelves of gold and silver plate. The walls were wainscoted with carved oak panels, and these were furnished with cipher mottoes. Elizabethan architecture was intended to please the traveller, the neighbor, and the passer-by. Its inconveniences were that the rooms in street houses were low and dark, the streets narrow and dim."

The following is a lively description of a great house in the time of Shakspeare:—

"Here was a town contained under a single roof, a vast family held within the same walls: all living and hating, and wooing and fighting, within this network of courts, passages, towers, and chambers. Servingmen squabbling in the kitchen; butlers drunk in the cellars; pages stealing in the buttery; wenches chattering and being kissed in the pastry room; matrons busy in the still room; stewards weighing money in the bursary; gallants duelling in the orchard; lovers meeting on the staircase. Days of romance gone to the grave forever." * *

"Queen Elizabeth, when visiting Sir Thomas Gresham, remarked that the court should have been divided by a wall. He immediately collected so many artificers, that the wall was erected before the queen had arisen the next morning."

The last paragraph reminds us of the Chinese magnificos, who are said to change the whole of their expensive garden scenes in one night, wood, water, and all, so as to surprise their visitors with an entirely new scene in the morning.

THE PATENT OFFICE REPORT is, as usual, filled with useful suggestions, many of which we shall notice, as peculiarly adapted to the readers of this periodical. Mr. D. J. Browne, in his report on "Seeds and Cuttings," gracefully admits that he was in error in stating that the Tamarind grew and fruited in Virginia, his attention being called to the circumstance, in these pages, by our correspondent, Yardley Taylor.

AN ANCIENT OAK.—One of the oldest trees in Europe was struck by lightning in the month of July last. This tree, an oak, had been planted near Châtillon-sur-Seine (Côte d'Or), in 1070, by a Count of Champagne. The oak, which had therefore existed 786 years, measured seven and a half metres in circumference, and had produced acorns up to 1830.

THE TANSY, AND ITS VALUE.—M. De Morogues announces that this plant—dried—is excellent sheep food, and that, when fresh, it makes capital litter for domestic animals. Its peculiar balsamic odor most effectually drives away fleas. A lapdog sleeping on a bed of fresh tansy, is immediately freed from these vermin. It should be renewed when the leaves are quite dry. This seems a better application of the plant than following the example of our grandmothers and making it into cakes.

DESTRUCTION TO HOUSE BUGS.—The French Academy of Sciences is assured, by Baron Thénard, that boiling soap and water, consisting of two parts of common soap, and 100 parts of water by weight, infallibly destroys bugs and their eggs. It is enough to wash walls, woodwork, &c., with the boiling solution, to be entirely relieved from this horrid pest.

NEGATIVE ARTESIAN WELLS.—The Society of Arts have published Herr Bruckmann's paper on "Negative Artesian Wells"—that is, wells which take in instead of giving out water. Such wells serve as permanent drains; they are sunk in loose strata, or where communications exist with fathomless fissures, or with deep-lying streams. Mr. Bruckmann, who is a native of Wurtemberg, states that they may be established "in all the so-called normal or sediment formations: diluvium, tertiary deposits, chalk, Jurassic rocks," and others. And he brings forward examples of the benefits that have followed the sinking of negative wells in towns or in swampy country districts. The drainage becomes at once perfect and constant; fluid matters of all kinds find their way to the mouth, and flow away, while solid matters may be stopped and used in fertilization.

CORRESPONDENTS and exchanges will oblige the Editor by directing everything intended for him to *Germantown, Pennsylvania*.

ANSWERS TO CORRESPONDENTS:—

CUMBERLAND, MARYLAND.

DEAR SIR: I have various books and papers on gardening, &c., but I see but little said about the following named common "greens," than that nothing can be more wholesome or cheaper: 1. Sorrel. 2. Cowslip. 3. Deerweed. 4. Shepherd Sprouts. 5. Dandelion. 6. (Narrow) Dock.

I may be thought very "green" to say anything about these, but I have an idea of establishing a bed of them if I can get *hardy sorts*, and such as will hold themselves in the ground—*weeds* like dandelion, &c.—and which are good, and cheap, and wholesome, but beneath the dignity of most writers of books on gardening. Can you furnish me any information about such things?

Respectfully, E. S. ZEVELY.

(1.) The large leaved French Sorrel is in common use. It grows well in stony ground made very rich by barnyard manure. It does not do well on limestone soils.

(2.) We have no knowledge of the Cowslip being applied to culinary uses, except that, in some parts of Europe, the peasantry make puddings of the flowers. Unlike the last, it is at home in limestone soils.

(3.) Local names are a nuisance. What is "Deerweed?"

(4.) " " " " By "Shepherd's Sprouts" do you mean the *Capsella Bursa pastoris* of botanists, which is generally known as "Shepherd's Purse?" If so, we are not aware of its uses. As a weed, it thrives in the richest kinds of garden soil, and we should imagine, to get anything from it as a vegetable, it should be sown in the fall, about the same time as spinach.

(5.) This makes an excellent salad. Take roots as perfect as possible, lay them in boxes of rich soil, about three inches apart, water well, and leave in the open air for two or three weeks; then put the box in a dark place, with the temperature about 55°, and it will grow and blanch finely. Or, get a one-light frame, and, in the fall, place it on a bed of leaves three or four feet thick; plant the roots as in the box; then line the frame with leaves or hot dung, and cover the box with a shutter. This is an excellent plan.

(6.) A variety called the "Patience Dock," should be in every garden. It will come in use before even spinach, and, to many tastes, is superior. It requires only a deep, rich loam, and is very readily propagated from seeds. Once formed, a bed will last for years, if the flower stalks are kept down. We refer you to a late volume for an account of the weed chickory as a winter salad.

(D. S. PLACE, Greencastle.) Your plant is *Viola palmata*. It is rather common, in damp soils, in the Eastern States, though seldom seen in cultivation.

KINGSTON, ULSTER CO., N. Y.

EDITOR OF HORTICULTURIST.—DEAR SIR: I send you, this morning, per American Express Company, a sample of an apple cultivated a little in this vicinity, and less known in other places. It is called Philip Rick, from the farmer on whose land the original tree grew. It has been introduced by name to one or more nurserymen, and it now figures in several catalogues as Philip Rick, King Philip, and *Jonathan*, from Jonathan Hasbrouck, of Kingston (the name of its introducer to the late Judge Bird). It ripens about Christmas, and deserves a more extended reputation and cultivation. I regret that the samples sent were not more perfect, as they should have been, notwithstanding the imperfection of our apples this season.

Yours, &c., H. H. REYNOLDS.

[This variety has been much esteemed wherever known. Downing described it thus: "Fruit, of medium size, regularly formed, roundish, ovate, or tapering to the eye. Skin,

thin and smooth; the ground, clear light yellow, nearly covered by light red stripes, and deepening into a brilliant or dark red in the sun. *Stalk*, three-fourths of an inch long, rather slender, inserted in a deep, regular cavity. *Calyx*, set in a deep, rather broad basin. *Flask*, white, rarely a little pinkish, very tender and juicy, with a mild, sprightly flavor, evidently of the Spitzbergen class. November to March." It is a desirable kind for cultivation, and Mr. Reynolds has our thanks for bringing it to notice.]

COLUMBIA, S. C.

MR. EDITOR: I like this place surpassingly well. Columbia is certainly one of the most beautiful rural towns in the United States. The *Camellia*, *Pittosporum*, *Gardenias*, *Magnolias*, all the new Pines, Firs, Spruces, Thuyas, &c., are here perfectly hardy, and very common in nearly every garden in the place, and nearly every dwelling has attached to it from one to four acres of ground under the protectorate of accomplished gardeners. There is a *Magnolia grandiflora* here sixty feet high, with a top whose diameter exceeds seventy feet—a perfect colossus of arboricultural beauty. I saw a *Cryptomeria Japonica*, twenty feet in stature, an *Aucacaria Imbricata*, twenty-five feet high, a *Cedrus Decurii*, thirty-two feet from the ground to its extreme apex. Roses are in great profusion, flouting their beautiful heads from miles of hedge, exulting in balconies and parapets, enshrining cottages, and making nature generally exceedingly gorgeous: in fact, it is just the place to locate a paradisaical garden. As soon as I can steal a little time from my present labors, I will send you a description of some of the beauties which make me love—or, as the poet sung:—

"A wood coeval with himself he sees,
And loves his own contemporary trees."

I tried to purchase the *Horticulturist* here, but it wasn't to be had.

Yours, cordially,

C. REAGLES.

JOLIET, WILL CO., ILL., NOV. 7, 1856.

MR. JAY SMITH, ESQ.—DEAR SIR: In looking over the "Gossip" in the Editor's Table of the October number of the *Horticulturist*, I observed that the *Newport News* says he saw fifty potatoes weighed, and the result was a total weight of fifty and a half pounds. A few days previous to seeing the above, I was digging up potatoes, and curiosity prompted me to select and weigh twelve potatoes, in the presence of my wife and a disinterested man; those twelve potatoes just weighed eighteen pounds regular merchantable weight, Avoirdupois, and if I had expected to have seen the above, I surely should have selected fifty, but I had finished digging up, and covered them promiscuously up among the other roots in the cellar before yours reached my eye. Those I weighed were Mishannocks, and as good as they were large. Can you equal these? if so, let us hear. We are pleased and interested here with your *Horticulturist*, and like to hear it speak free; and I am, dear sir,

Yours, truly,

MICHAEL TAIT, Sen.

KEYSBURG, LOGAN CITY, KY., NOV. 4, 1856.

MR. SMITH: A friend from near Elkton some time since sent you a short article upon the fruit of Kentucky. He noticed apples, principally, some of which are new and indigenous varieties, and are not surpassed by any apples of any climate. I am commencing a nursery at this place, and am trying to procure native seedlings of good quality. I will mention one apple in addition to those named by your Elkton correspondent. It is known here as the Robertson Red, and is a fine winter variety; of its origin I have learned nothing. I have found in this immediate neighborhood some very choice peaches, which, I suppose, originated here, and are not known elsewhere. One which I named the Monstrous Heath, from its great size and resemblance to the White Heath, is the largest peach I have ever

known, some of them weighing one and one-fourth pounds. Do you know anything that beats it? It is equal, in flavor, to the White Heath, rounder, with a less prominent point. It must have been produced from that peach. Another very remarkable and fine peach, in this vicinity, is about the size and form of George IV. It is beautifully streaked with red on a yellow ground, the flesh being streaked with red and yellow to the seed, from which it parts freely. It is a delicious peach, perhaps not surpassed by any soft peach in cultivation, unless it is by another seedling of this county, in flavor, but not in size. There are several others that have originated here, viz: a soft White Heath, &c.

I will mention one more article—*i. e.*, a native strawberry, which was found growing wild by A. M. McLain, and has been cultivated by him for twenty-two years, and has not, in that time, failed to produce a crop. It is a light colored berry, inclined to neck. It has perfect flowers, is of good size, and surpasses all others that I have seen in taste and odor.

I am confident there is nothing wanting but attention to the fruits of this country, to develop some of the finest varieties adapted to the South and West. I believe, that to succeed well, we must have native seedlings.

SWAIN.

OAKWOOD COLLEGE, EVANSTON, ILL., NOV. 10, 1886.

MR. JAY SMITH: Your article in the November *Horticulturist*, entitled "Rationale of Draining Lands Explained," has furnished me what I have for some time sought—an explanation of a phenomenon I have observed in an orchard I happened to own, near Chicago. The trees were situate in rather sandy, low, flat, undrained land, and had made a fine growth. In September, the fruit would become shrivelled to such a degree, that some kinds were almost as pliable in the hand as an India-rubber ball. Of course I attributed this to the situation of the trees, but the exact reason why that should produce the effect, was far more difficult for me (novice as I was) to discover. Nor could I see why the fruit should begin to shrivel as the ground seemed to become more dry. I reasoned that the tree being accustomed to a larger amount of moisture during the early part of the season, and its diminishing as the season advanced, left it to carry out its undertaking under different circumstances from which it commenced, and, had the moisture continued as at first, the fruit would not have wilted. This course of reasoning seemed more plausible from the seeming analogy with swamp grasses and shrubs, which fail when their supply of moisture is cut short.

But I am now satisfied, that although the ground became comparatively dry by the last of July, yet the water did not disappear to a sufficient depth, or early enough to enable the ground to become sufficiently warm, to ripen fruit, requiring, as it does, much more heat as it approaches maturity than while young. The water did not dry out to a greater depth than about two feet. This, of course, continually imparted its coldness to the ground above it, insomuch that the warm rains and the heat of the sun could not overcome it sufficiently to meet the demand of the fruit.

The proper illustration of your experiments will have a powerful tendency to set our prairie farmers right upon the subject of drainage. Conviction only produces action, and this alone follows a perception of the reasons.

If you should desire to know the locality of the place whose name is at the head of this letter, and turn to your map to gratify that desire, you will be disappointed. But perhaps you have learned that maps are far behind the age, so far as they have reference to the West, where towns spring up even while the binder is putting the gilt trimmings upon his *splendid large atlas*.

Evanston is the site of the Northwestern University and Garrett Biblical Institute, lately so liberally endowed, and is one of a number of villages that have sprung up along the lake-shore north of Chicago within the last two years, and which are becoming the residences

of those wealthy citizens of Chicago whose desire for retirement, fine seats, and the delights of rural life, induce them to leave its dusty, noisy streets.

The lake-shore between Chicago and Waukegan is high, broken ground, mostly covered with a fine growth of timber. The soil is well adapted to the raising of fruit and gardening. Much taste is displayed both in the laying out of the towns and the improvement of residences, and horticulture is the staple of our delights. As I read your "Visits to Country Places," I cannot help *imagining* the day when the western shore of Lake Michigan shall vie with the shores of the Hudson.

H. B. HURD.

It is gratifying to find, by several similar notices, that the article on the "Rationale of Draining Lands," page 500 of the last volume of the *Horticulturist*, has proved a most satisfactory elucidation, in a very simple form, of the most important theory, perhaps, of modern culture. If there are any who have skipped it, we beg they will turn to the page.

We can readily imagine the future editor describing the "Country Places" of Illinois with rapture; for intelligence is a characteristic of even its pioneer horticulturists. Our correspondent, we are convinced, is well able to give us some insight *now*, and why should he not?

Maps are too often behind the age, but efforts are constantly made to remedy this; when they will *catch up* with the current events of the day, is a problem rapidly solving at the very office of the *Horticulturist*, where more maps are *coined* every day than at any other manufactory in the world.—Ed.

ELGIN, KANE COUNTY, ILLINOIS, Sept. 27, 1856.

RESPECTED SIR: I wish that I could write interestingly to you, and give you a correct description of this section of the far West. I have taken up my residence here for the present. I have been into different places about here, and have had a look-out for the fruit of the country, both tame and wild.

The apple grows very smooth: the bark has a smooth, bright surface generally, but they do not grow as tall as in the Eastern States, but the limbs are very free from moss; very little attention is paid to the cultivation of good kinds of apples, so far as I can learn.

The cold of last winter was very hard for fruit growing. I cannot believe that this part of Illinois will be a good fruit growing country. Peaches were all killed last winter. I am informed, that once in five or six years they have a good crop of peaches. I have conversed with many persons in this vicinity, and also of persons at Rockford, Rock River, who say that many farmers have mostly given up fruit growing.

I have been into the woods some. I found any quantity of the common crab-apple. I have frequently counted from fifteen to twenty in a clump, and fully loaded with fruit. No particular use is made of the fruit: wild plums, the thorn-apple, and the nannyberry. I believe that the crab apple-tree would make a good hedge; it grows very thrifty, and is perfectly hardy.

Inclosed I send you a rose-bud, which I found about a mile north of Rockford, Rock River; it grew upon the open prairie. I wish you to see what you can do with it. I also send you the nannyberry, which grew on the banks of Fox River, near this place. The timber which I have seen growing in the woods is principally oak (three kinds), walnut, slippery elm, basswood, white ash: but a very few of the last mentioned could I find. If anything which I have written is worthy of your notice, please accept it from a friend, and one who is fond of the beautiful in all places, and an admirer of the *Horticulturist*.

H. DAVIS.

DISPLAY AT EXHIBITIONS.—A late visitor at the London Crystal Palace, says: "One thing must have been evident to every one who took an interest in the exhibition, that to stage fruit is by no means the best way of showing it to advantage. When a stage is preferred

to a flat surface, it never ought to be much higher than that of an ordinary table, and, in all cases, there should be a division down the centre covered with green baize, or some other cheap material, so as to prevent more being seen than the eye can easily examine in passing. In the present case, the stage was much higher than it ought to have been, and too narrow. The fruit on the upper tier was so elevated as to be completely hid from the sight of all ordinary spectators; and many exhibitors must have regretted to find the objects of their care and anxiety in the position they occupied. The want of a screen down the centre was apparent to every one, from its permitting them to see the props and other expedients resorted to by exhibitors in order to display their boxes of fruit to the best advantage."

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society occurred at Concert Hall, on Tuesday evening, November 18, 1856, Caleb Cope in the chair. Numerous premiums were awarded.

The Committee called the attention of the Society to the growth of the Chrysanthemums from John Anspach's, being the most luxuriant of any collection exhibited for a long time.

By the Committee on Fruits. *Apples*, collection of fifty specimens. *Special Premiums*—of five dollars to Richard Matthews, gr. to Jos. S. Lovering, for six vines of Black Hamburg Grapes in pots; of five dollars to Jerome Graff, gr. to Caleb Cope, for an interesting collection of cut Grapes, consisting of four varieties; of five dollars to Chas. Sutherland, gr. to J. Anspach, for six Pine-Apples grown in pots.

Vegetables. The Committee call the attention of the Society to a dish of Potatoes grown in Luzerne County, called the Dooryard—very superior in quality, and of large size. The Committee were gratified to report to the Society that the display of vegetables made this evening, was superior to any that we have had for many months.

The Committee for establishing premiums, reported a schedule for the year 1857, which, on being amended, was adopted.

Five gentlemen were elected members of the Society.

OBJECTS SHOWN.—*Plants* from M. W. Baldwin's greenhouse: Chrysanthemum var. Galatia, Solundia grandiflora, Clerodendron fallax, Eulopia Mackai, Veronica Andersoni, Daphne indica rubra, and specimen Posoquira longiflora.

From John Anspach. A collection of twelve large var. Chrysanthemums, a collection of twelve dwarf varieties, and specimens of both kinds.

From John Tucker's gr. A specimen of Cuculia gratissima, in fine flower, and very fragrant.

By Alexander Parker. A collection of Chrysanthema and other plants.

A Table Design, a Basket, and various pairs of Hand-Bouquets.

Fruits. From John Anspach's conservatory, Pine-Apples, in pots, three Black Jamaica, and three Queens.

From Jos. S. Lovering's grapehouses. Six pots of Black Hamburg Grapes in pots.

From C. Cope's graperly. Cut bunches of Grapes—twelve Muscat of Alexander, eight West's St. Peters, seven Black Hamburg, and three Chasselas of Fontainbleau.

By Isaac B. Baxter. Fifty Pears—twelve Duchesse, ten Passe Colmar, ten B. Rance, ten St. Germain, and eight Napoleon; also ten clusters of winter Grapes.

By Saml. W. Noble, Montgomery Co. Apples—sixteen varieties.

By John Perkins, Moorestown, N. J. Apples—ten varieties.

By Thos. Meghean, Mrs. Wetherill's gr. Two kinds of Apples, and one of Pears.

Calendar of Operations.

BY WILLIAM SAUNDERS.

JANUARY.

THE Calendar of Operations, a new feature of the *Horticulturist* commenced with the last volume, is always considered of interest by the gardener and amateur, as reminding both employer and employed of duties in prospect for the coming month, but no Calendar can

be sufficiently extensive to embrace all the operations required for each season. In a work like this, which must be cheap to insure its circulation, and therefore limited in its pages, and where every useless word is to be stricken out, a monthly *résumé* of any great length would be improper. We shall, however, endeavor to give such hints as we deem important, studying brevity rather than diffuseness, and dealing more in principles than detail.

VEGETABLE GARDEN.—The successful gardener will by this time have ridged up his vegetable ground for winter, but in such parts of the Union where the ground is not at this time bound up with frost, he may continue to do so in the waste quarters, first giving them such manure as they require.

Repair fences, rub out and clean your seeds, prepare labels, nails, and twigs, get all garden tools in repair, provide pea-roads and poles for Lima and other running beans, to be ready for use when wanted. Cauliflower, lettuce, and other plants in frames, should be kept dry; cover them up during snow storms, taking care to expose them to sunshine gradually thereafter. Snow is a very effectual covering against frost, and may be allowed to remain with advantage for a week or ten days if the weather is severe.

GRAPERY.—In the early graperies, the vines having advanced some inches, the temperature should be gradually increased. The cold houses should be well aired, rarely or never entirely closed, the borders kept dry, the outside portions protected by wooden or glazed sashes; if the latter, lettuce, strawberries, &c., may be cultivated; from its forcing habit, the Sir Harry will be found to be excellent, as well as the British Queen. Straw will be placed over the vines now, in a horizontal position, in the cold house.

Strawberries should be lightly covered with manure, short hay, or leaves, and they will be grateful for it when the time of bearing arrives. Raspberries should be now, if they have not been already, under protection, by laying down the vines and covering them with soil. Peach-trees in pots may be kept in the graperies in a cool place. Keep the roots dry, and cover to prevent freezing. Root grafting is now advantageously attended to, and the roots set in boxes of earth are placed in a cool cellar.

GREENHOUSE.—By day the temperature may average 60° or 65°, and at night 40°. Keep your tender plants in the warm end, and water those most that are in flower. Pinch the points of the shoots of plants intended for the flower garden to make them stocky and strengthen their growth. Syringe your camellias freely in fine weather. Fumigate twice a month to keep down the green fly, and throw a small quantity of sulphur occasionally on the heating apparatus to destroy red spider.

FLOWER GARDEN.—While but little can be done here for the present, manure and composts may be applied, walks repaired, and a general oversight inducing to cleanliness observed. Both here and in the

PLEASURE GROUNDS AND SHREBERY, do everything that can facilitate spring operations; dig out and prepare the ground for trees, laying beside each hole, leaf mould or other materials ready for spring planting.

FRAMES will require regular attention; new linings of hot manure and leaves or litter must be given whenever the temperature requires, and if the weather is cold, wet, or snowy, it may be proper to lay a quantity of dry long litter all round the general lining, which will protect the whole from driving cold rains and snow, and preserve the heat of the bed in a fine growing temperature. Every good gardener prides himself on having now, at least, an abundance of good salad, placed in the frame in November. Cresses, mustard, radishes, and lettuce may be sown in a slight hotbed, and a succession should always be kept up. Asparagus may be forced any time this month for February or March. Take plants of three or four years' growth, and keep the temperature equable, admitting air as often as the weather will allow.

PRUNING, &c.—Give a careful perusal to the best works on pruning, as much may be done in fine weather to fruit trees and grape-vines; the latter, in ordinary seasons, may be trimmed in February, and in extreme winters, early in March.

Mulch your newly planted fruit trees, particularly the choicest of the stone-fruit kinds, if not already done. Pear-trees should be protected in this way, and if in an orchard, will be benefited by laying long litter on the surface of the roots. This is a matter of great importance. Most of our winter killed trees are destroyed when the soil around the roots is frozen; there is no absorption, and the tree is placed in the same position as if cut over at the surface, and stuck in the ground. A position it cannot long survive.

Landscape in Connection with Tree Planting, No. 1.*



WHEN instructed taste goes hand in hand with cultivated nature, scenery may be *created*; by studying the varying forms, and seizing on what some author calls "accidents," graceful groups may be produced, full of intricacy, possessing a good sky outline as well as a gracefully fringed vista; if the position of the plantation has been well-selected, groups complete in themselves as to form, and conducive to the general effect, may certainly be calculated on.

A guide to the kind of trees to be selected for planting a landscape, requires study and experience. We hear it said, occasionally, that we have as good trees as any other country; our own opinion is, that we have better; and yet, variety, and those plants that are foreign to one's neighborhood, are required to produce the necessary effects. Loudon was among the first to insist upon this, though many had studied it out without having given expression to the fact. He taught that, in modern landscape-gardening, considered as a fine art, all the more important beauties and effects produced by the artist, may be said to depend upon the use which he makes of foreign trees and shrubs. His reasons for this are grounded on the principle that all art, to be acknowledged as such, *must be avowed*. This is the case in the fine arts: there is no attempt to conceal art in music, poetry, painting, or sculpture; none in architecture; and none in the geometrical style of landscape-gardening. Why, he asks, should there be an attempt to conceal art in modern landscape-gardening? Because, we shall be told, it is an art which imitates nature. But does not landscape-painting also imitate nature? and yet, in it, the work produced is acknowledged to be one of art? Before this point is settled, it is necessary to recur to what is meant by the imitation of nature, and to reflect on the difference between repetition and imitation. In what are called the imitative arts, it will be found that the imitation is always made in such a manner as to produce a totally distinct work from the thing imitated, and never, on any account, so like as to be mistaken for it. In landscape-painting, scenery is represented by colors on a flat surface; in sculpture, forms, which in nature are colored, are represented in colorless stone. The intention of the artist, in both cases, is not to produce a copy which shall be mistaken for the original, but rather to show the original through the medium of a particular description of art; to reflect nature as in a glass. Now, to render landscape-gardening a fine art, some analogous process must be adopted by the landscape-gardener. In the geometrical style he has succeeded perfectly, by arranging grounds and trees in artificial surfaces, forms, and lines, so different from nature as to be recognized at once as works of art. A residence thus laid out, is clearly distinguished from the woody scenery of the surrounding country; and is so far satisfactory, as it displays the working of the human mind, and confers distinction on the owner as a man of wealth or taste.

A residence laid out in imitation of the undulations of nature, and the trees scattered over it in groups and masses, neither in straight lines, nor cut into artificial shapes, might be mistaken for nature, were not the trees planted, chiefly of foreign kinds not to be met with in the natural or general scenery of the country. Everything in modern landscape-gardening, therefore, depends on foreign trees

* See Frontispiece.

and shrubs; and when it is once properly understood that no residence in the modern style can have a claim to be considered as laid out in good taste in which most, if not all, the trees and shrubs employed, are not foreign to the vicinity, or improved varieties of indigenous ones, the grounds of every country-seat will become an arboretum, differing only in the number of species which it contains.

We have had a series of single trees and groups prepared, to exhibit the beauties and the faults committed by planters, as well as to illustrate the necessity of looking forward to the well-ascertained effects that time will certainly produce by the growth of certain descriptions of trees and shrubs, planted either singly or together. Groups are often planted in scenery, yet seldom is it performed in a satisfactory way. Attempts of this kind, in which the trees being all of one size, and planted in the most circumspect mode, at measured distances, would sometimes lead one to suspect they had been planned by using a foot rule.

As the beauties and defects of grouping will be displayed to the eye in these illustrations, we shall at once refer to our first plate; this will be followed by fifteen other illustrations, in succession, and our brief remarks on landscape and planting, will perhaps be more fully understood when the whole, having been printed in this volume, shall be read consecutively by those who take pleasure in this interesting topic.

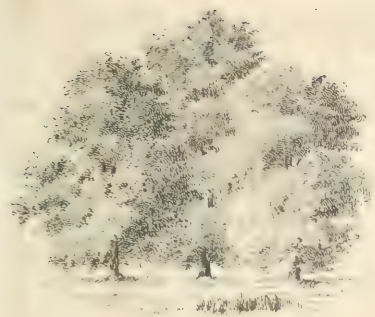
Grouping Trees.—In the arrangement of trees at the time of planting or thinning, two principles require to be respected: first, always to maintain a balance in the composition; and second, there should be form and variety in the groups themselves.

What is meant by maintaining a balance, may be thus explained: In a group, and especially a small one, the centre should appear the highest. A group of three (Fig. 1) is much more pleasing than if the lowest were placed in the centre, as in Fig. 2. Again, three trees of different heights, so as to appear like steps, one above another, forming a line, or nearly so, either at equal distances, or otherwise (Fig. 5), would be much less beautiful than if arranged as in Fig. 4. A group of five trees, or more, with one or two tall ones, placed near together, and pretty central, though some may have crooked stems, yet, if they rise perpendicularly, produce an agreeable and natural effect, as in Fig. 3. When two only are planted, they should be placed at least so close together as to intermingle their branches; but the best effect is produced when two are placed so near to each other as, to all appearance, to form but one tree, as in the Wych Elm (Fig. 6) and in another example of the Beech, in a future figure.

No one can plant a group of trees of considerable size, even for immediate effect, without, in the first place, having a variety of heights disposed somewhat in an irregular way. Thick planting must be resorted to in many instances, or how shall the pendulous inclination of stems or branches be produced that gives a graceful outline to the scene? The distance asunder must be carefully considered, or the unison in producing effect will be lost. The most pendulous or inclining forms must be left for the exterior of the groups, and so forth.

While the painter was studying nature only, the gardener, in the infancy of what is now called landscape-gardening, busied himself in cutting and slashing vegetation into all the most whimsical regular figures his ingenuity could invent. Geometry, with its lines and rules, was his text-book, while the artist seized upon nature in all her varied forms, and habits, and hues, exhibiting her as she appeared on the mountain steep, or in the secluded dell, by the reedy river-side, on the margin of the placid lake, or on the umbrageous hill.

Thus, at the same time, were painters and gardeners employed; each occupied by the same objects; the one forming real, the other painted scenery, but with



very different intentions ; the first was enamored of "neglect and accident ;" the other seriously annoyed if a single leaf projected from the smooth surface his shears had made. The love of fine pictures and gardening, however, kept pace with each other, as indeed they should and must do ; at last, the style of the painter's landscape captivated the connoisseurs of taste ; the admirable scenes presented on canvas, were extolled by those who had studied nature, though not painters themselves, because they were, while taking liberties with her, true copies in the main of real or combined scenes ; when these were compared with the then existing most labored dispositions of the garden, the latter sunk in public estimation, and soon the cry was : " Why is not every gardener a painter ?"

This impression was so strong after the new light broke in upon the minds of students, that Kent, a painter by profession, was induced to become a landscape gardener, though that professional title was not then invented. He had a difficult and unpleasant task, for he aimed at producing *immediate effect* on the lawn at Kew, as he used to do on his canvas ; but he soon found this was impracticable, as he had to wait many years before he could possibly see the full results of his growing trees and shrubs.

(To be continued.)

A SHORT ACCOUNT OF THE LIFE AND WRITINGS OF JOHN CLAUDIUS LOUDON.

BY HIS WIDOW.

(CONTINUED FROM PAGE 19.)

The Continent, after having been long closed to English visitors, was thrown open in 1813 by the general rising against Bonaparte, and presented an ample field to an inquiring mind like that of Mr. Loudon. After having made the necessary preparations, he sailed from Harwich on the 16th of March. He landed at Gottenburg, and was delighted with Sweden, its roads, its people, and its systems of education ; but he was too impatient to visit the theatre of war to stay long in Sweden, and he proceeded by way of Memel to Königsberg, where he arrived on the 14th of April. In this country he found everywhere traces of war : skeletons of horses lay bleaching in the fields, the roads were broken up, and the country houses in ruins. At Elbing, he found the streets filled with the goods and cattle of the country people, who had poured into the town for protection from the French army, which was then passing within two miles of it ; and near Marienburg he passed through a bivouac of 2,000 Russian troops, who, in their dress and general appearance, looked more like convicts than soldiers. The whole of the valley between Marienburg and Dantzic he found covered with water, and looking like one vast lake ; but on the hills near Dantzic, there was an encampment of Russians ; the Cossacks belonging to which were digging holes for themselves and horses in the loose sand. These holes they afterwards covered with boughs of trees, stuck into the earth, and meeting in the centre as in a gypsy tent ; the whole looking, at a little distance, like a number of huts of the Esquimaux Indians. He now passed through Swedish Pomerania ; and, on approaching Berlin, found the long avenues of trees leading to that city filled with foot passengers, carriages full of ladies, and wagons full of luggage, all proceeding there for protection ; and forming a very striking picture as he passed through them by moonlight.

He remained at Berlin from the 14th of May to the 1st of June, and then proceeded to Frankfort on the Oder. Here, at the *table d'hôte*, he dined with several Prussian officers, who, supposing him to be a Frenchman, sat for some time in perfect silence ; but, on hearing him speak German, one said to the other, " he

must be English;" and, when he told them that he came from London, they all rose, one springing over the table in his haste, and crowded round him, shaking hands, kissing him, and overwhelming him with compliments, as he was the first Englishman they had ever seen. He then proceeded through Posen to Warsaw, where he arrived on the 6th of June.

Afterwards he travelled towards Russia, but was stopped at the little town of Tykocyn, and detained there three months, from some informality in his passport. When this difficulty was overcome, he proceeded by Grodno to Wilna, through a country covered with the remains of the French army, horses and men lying dead by the road-side, and bands of wild-looking Cossacks scouring the country. On entering Kosnow, three Cossacks attacked his carriage, and endeavored to carry off the horses, but they were beaten back by the whips of the driver and servants. At Mitton, he was obliged to sleep in his britz-ska, as every house was full of the wounded; he was awakened in the night by the crows and other animals, of which the inn-yard was full, eating the hay which had been put over his feet to keep them warm. He reached Riga on the 30th of September, and found the town completely surrounded by a barricade of wagons, which had been taken from the French. Between this town and St. Petersburg, while making a drawing of a picturesque old fort, he was taken up as a spy; and, on his examination before the prefect, he was much amused at hearing the comments made on his notebook, which was full of unconnected memoranda, and which puzzled the magistrates and their officers excessively when they heard it translated into Russ.

Mr. Loudon reached St. Petersburg on the 30th of October, just before the breaking up of the bridge, and he remained there three or four months; after which he proceeded to Moscow, where he arrived on the 4th of March, 1814, after having encountered various difficulties on the road. Once, in particular, the horses in his carriage being unable to drag it through a snow-drift, the postilions very coolly unharnessed them and trotted off, telling him that they would bring fresh horses in the morning, and that he would be in no danger from the wolves, if he would keep the windows of his carriage close, and the leather curtains down. There was no remedy but to submit; and few men were better fitted by nature for bearing the horrors of such a night than Mr. Loudon, from his natural calmness and patient endurance of difficulties. He often, however, spoke of the situation he was in, particularly when he heard the howling of the wolves, and once when a herd of them rushed across the road close to his carriage. He had also some doubts whether the postilions would be able to recollect where they had left the carriage, as the wind had been very high during the night, and had blown the snow through the crevices in the curtains. The morning, however, brought the postilions with fresh horses, and the remainder of the journey was passed without any difficulty.

When he reached Moscow, he found the houses yet black from the recent fire, and the streets filled with the ruins of churches and noble mansions. Soon after his arrival, news was received of the capture of Paris, and the entrance of the allied sovereigns into that city; but the Russians took this intelligence so coolly, that, though it reached Moscow on the 25th of April, the illuminations in honor of it did not take place till the 5th of May. He left Moscow on the 2d of June, and reached Kiov on the 15th. Here he had an interview with General Rapp, on account of some informality in his passport. He then proceeded to Craeow, and thence to Vienna; after which he visited Prague, Dresden, and Leipsic, passing through Magdeburg to Hamburg, where he embarked for England, and reached Yarmouth on the 27th of September, 1814.

During this long and interesting journey, Mr. Loudon visited and took views

of nearly all the palaces and large rural residences in the countries through which he passed; and he visited all the principal gardens, frequently going two or three days' journey out of his route, if he heard of any garden that he thought worth seeing. He also visited most of the eminent scientific men in the different cities he passed through; and was elected a member of the Imperial Society of Moscow, the Natural History Society at Berlin, the Royal Economical Society at Potsdam, and many others. I have often wondered that, on his return home, he did not publish his travels; as the Continent was then, comparatively, so little known, that a narrative of what he saw, illustrated by his sketches, would have been highly interesting. Business of a very unpleasant nature, however, awaited him, and probably so completely occupied his mind as to leave no room for anything else.

I have already mentioned that when Mr. Loudon went abroad, he had a large sum of money lying unemployed in his banker's hands; and with this he was induced, I know not how, to embark in mercantile speculations and underwriting ships at Lloyd's. As he knew nothing of business of this nature, it is not surprising that his speculations turned out badly; and, for more than twelve months, he was involved in pecuniary difficulties. I am unable to give all the details of his sufferings during this period, as it was a subject he never spoke of, and the allusions to it in his memorandum books are by no means explicit. It appears, however, that after having made several fruitless journeys (including one to Paris, in 1815) in the hope of recovering some part of the property, he was compelled to submit to the loss of nearly the whole; and that his health was very seriously injured by the anxieties he underwent.

About this time (1816), his mother and sisters left the country, and he, having determined that in future they should reside with him, took a house at Bayswater called the Hermitage, which had a large garden annexed. His health was now seriously impaired, but his mind always seemed to acquire additional vigor from the feebleness of his body; and, as he was unable to use so much exertion as he had formerly done in landscape-gardening, he amused himself by trying experiments relating to the construction of hothouses, and by having several of different kinds erected in his garden.

In August, 1815, a paper had been published in the *Transactions of the Horticultural Society*, by Sir George Mackenzie, of Coul, on the "Form which the Glass of a Forcing-House ought to have, in order to receive the greatest possible Quantity of Rays from the Sun." This form Sir George conceived to be that of a globe, but as it seemed impracticable to make a hothouse globular, he proposed to make the roof the segment of a circle. Mr. Loudon appears to have been very much struck with this paper, but he saw faults in the plan which he thought might be amended, and he tried houses with curvilinear roofs of various kinds, in order to ascertain which was the best. He also tried a house with what he called ridge and furrow glazing; a plan which has since been carried out on a magnificent scale by Mr. Paxton, in the Duke of Devonshire's splendid conservatory at Chatsworth. While these houses were in progress, he wrote a work entitled "Remarks on the Construction of Hothouses, &c.," which was published in 1817. Shortly afterwards he invented a new kind of sash-bar, of which he gave a description, together with sketches of the hothouses, and details of their construction, in a quarto pamphlet, entitled "Sketches of Curvilinear Hothouses, &c.," which was published in 1818. The profits of this bar he was to have shared with the ironmonger by whom it was sold; but, I believe, he never reaped any pecuniary advantage from it. He also published, in folio, another work, in the same year, entitled "A Comparative View of the Common and Curvilinear Modes of Roofing Hothouses."

He now seems to have determined on devoting his time principally to his pen;

and he began to collect materials for the well-known *Encyclopædia of Gardening*. It is probable that the first idea of this work had occurred to him while he was travelling, from the great number of gardens he had seen, and the various modes of gardening that he had found practised in different countries. At any rate, he determined to commence his work with a history of gardening, and a description of the gardens of various countries, introducing illustrative drawings engraved on wood, and printed with the text, this being, I believe, the first time any engravings, except mere outlines, had been printed in that manner. It was necessary, in order to complete his plan, that he should see the gardens of France and Italy, in the same manner as he had seen those of the North of Europe; and, for this purpose, he determined to set out on another tour, though his health was at that time so very indifferent, that one of his friends, who saw him at Dover, told him he looked more fit to keep his bed than to set out on a journey. Mr. London, however, was not easily deterred from anything that he had resolved upon, and he proceeded by way of Calais and Abbeville to Paris, where he arrived on the 30th of May, 1819. After seeing everything deserving of notice in Paris, and becoming acquainted with many eminent men there, from the letters of introduction given to him by his kind friend, Sir Joseph Banks, he left, on the 10th of June, for Lyons, in the Botanic Garden of which city, he saw, for the first time, a living plant of the *Vallisneria*, which had not then been introduced into England, and which he had only seen in a dry state, in the Hortus Siccus of Sir Joseph. From Lyons he went to Avignon, and then he visited the celebrated fountain of Vaucluse. Afterwards he proceeded to Marseilles, and thence to Nice, from which city he sailed, in a felucca, for Genoa.

During the whole of his tour through France, he visited the gardens everywhere, and made memoranda of everything that he thought would be useful for his intended work. He also made sketches of all the principal places, as he had previously done in the North of Europe.

Before leaving Genoa, he procured a collection of orange-trees, which he sent to England for his greenhouse at Bayswater. He also saw, for the first time, slate boxes used for orange-trees, in the garden of Signore di Negre, near Genoa. In this city, also, he first met with his friend, Captain Mangles; and joining him and the late Captain Irby, they travelled together along the shores of the Mediterranean, leaving Genoa on the 6th of July, in a felucca, for Leghorn, where they arrived on the 8th, and thence proceeded through Pisa to Florence. During the whole of this tour, Mr. London's Journal is entirely filled with descriptions of the gardens he visited, observations on the different modes of culture he saw practised, and various remarks on the habits of plants. One of the latter, which appears to me worth recording, is, that he found *Saxifraga crassifolia* killed by a very slight frost in Florence, though it will bear a considerable degree of cold in more northern climates. From Florence he went to Rome, and thence to Naples; after which he visited Pompeii and Herculaneum, returning through Rome to Florence, Venice, &c. In these cities, he visited all that is generally considered worth seeing, and, of course, did not neglect his favorite gardens.

As soon as he reached home, he began the *Encyclopædia of Gardening*, at which he worked, with little intermission, till it was finished, though he was suffering severely at the time from chronic rheumatism in his right arm; the pain from which became at length so intolerable, that, in 1820, he was compelled to call in medical aid; and, being recommended to try Mahomed's vapor baths, he went down to Brighton for that purpose. Here, notwithstanding the extreme torture he suffered from the shampooing and stretching, he submitted to both with so much patience, that they were continued by the operators till they actually broke

his right arm so close to the shoulder as to render it impossible to have it set in the usual manner, and, consequently, it never united properly, though he continued to use his hand to write with for several years.

In 1822 appeared the first edition of the *Encyclopædia of Gardening*—a most laborious work, remarkable both for the immense mass of useful matter it contains, and for the then unusual circumstance of a great number of finished wood engravings being printed with the text instead of being in separate pages. This book had an extraordinary sale, and fully established the literary fame of its author.

In the early part of the year 1823, he wrote a work entitled "The Different Modes of Cultivating the Pine-Apple, from its First Introduction to Europe to the Improvements of T. A. Knight, Esq., in 1822."

About this time, also, a little work was published anonymously, called *The Greenhouse Companion*, which, I believe, was written, either entirely or in part, by Mr. Loudon: but it must have been by a wonderful exertion, if he did write it; as, during the whole of the year 1823, he suffered most excruciating pain, not only from his right arm, the bone of which had never properly united, and to retain which in its place he was compelled to wear an iron case night and day, but from the rheumatism which had settled in his left hand, and which contracted two of his fingers and his thumb, so as to render them useless. It is, however, worthy of remark, and quite characteristic of Mr. Loudon, that, at the very time he was suffering such acute bodily pain, he formed the plan of his houses in Porchester Terrace, Bayswater, and superintended the building of them himself, rising at four o'clock every morning, that he might be on the spot when the workmen came.

In 1824, a second edition was published of the *Encyclopædia of Gardening*, in which the work was nearly all rewritten, and very considerable additions were made to it. In the following year, 1825, the *Encyclopædia of Agriculture* was written and published. These extensive and laborious works following closely upon each other, in Mr. Loudon's state of health, speak strongly as to his unparalleled energy of mind. When, shortly after, his right arm was broken a second time, and he was obliged to submit to amputation, though he gave up landscape-gardening, it was only to devote himself more assiduously to his pen. He was, however, now no longer able to write or draw himself, and he was compelled to employ both an amanuensis and a draughtsman. Still, though he had only the use of the third and little finger of his left hand, he would frequently take a pen or pencil, and make sketches with astonishing vigor, so as fully to explain to his draughtsman what he wished to be done.

During the time that he was suffering so severely from the pain in his arm, he found no ease but from taking laudanum; and he became at last so habituated to the use of this noxious potion, that he took a wineglassful every eight hours. After the amputation of his arm, however, he wished to leave off taking it, as he was aware of its injurious effects upon his general health; and he contrived to cure himself by putting a wineglassful of water into his quart bottle of laudanum every time he took out a wineglassful of the potion, so that the mixture became gradually weaker every day, till at last it was little more than water; and he found he had cured himself of this dangerous habit without experiencing any inconvenience.

In 1826, he established *The Gardener's Magazine*, the first periodical devoted exclusively to horticultural subjects. This work was always Mr. Loudon's favorite, and the organ through which he communicated his own thoughts and feelings to the public. It was originally undertaken principally for the benefit of gardeners in the country, in order to put them "on a footing with those about the metropolis;" but it soon became the universal means of communication among gardeners, and was of incalculable benefit to them. It also became a source of great pleasure to

amateurs of gardening, and was, no doubt, the means of inspiring a taste for the pursuit in many who had before been indifferent to it. "In an art so universally practised as gardening, and one daily undergoing so much improvement," Mr. Loudon observes, "a great many occurrences must take place worthy of being recorded, not only for the entertainment of gardening readers, but for the instruction of practitioners in the art." That this work met the wants of a large class of readers, is evident from four thousand copies of the first number having been sold in a few days; and from the work having continued popular for nineteen years, and, in fact, till its close at the death of its conductor.

The Gardener's Magazine first appeared quarterly, afterwards it was published every two months, and finally every month. The second number of this work contained an attack on the London Horticultural Society, the affairs of which were then notoriously ill-managed, though, before the publication of *The Gardener's Magazine*, no one had ventured to complain of them publicly. In the same number appeared an article on the "Self-Education of Gardeners," in which Mr. Loudon began those earnest exhortations to gardeners to improve themselves, and those efforts to put them in the way of self-improvement, which he continued almost to the last hour of his life. He also, in this second number, gave a plan for the improvement of Kensington Gardens, and suggested the erection of "small stone lodges with fireplaces at the principal garden gates, for the comfort of the door-keepers in winter," as, before that time, the door-keepers had no shelter but the alcoves; and he proposed that at least once a week a band should play in the Gardens, and that the public should be able to obtain the convenience of seats, as in the public gardens on the Continent. In the third number of the *Magazine*, he began a series of articles on "Cottage Economy," and invited young architects to turn their thoughts to the erection of cottages, as well for laborers as for gardeners, which should be not only ornamental enough to please the gentlemen on whose grounds they were to be erected, but comfortable to those who were to live in them. These hints were followed up by many gentlemen: and I think I never saw Mr. Loudon more pleased than when a highly respectable gardener once told him that he was living in a new and most comfortable cottage, which his master had built for him—a noble marquess, who said that he should never have thought of it, but for the observations in Mr. Loudon's *Gardener's Magazine*, as they made him consider whether the cottage was comfortable or not, and that, as soon as he did so, he perceived its deficiencies. In the fourth number of the *Gardener's Magazine*, the subject of the reform of the Horticultural Society was resumed, and it was continued in the succeeding numbers till 1830, when the desired result was at length effected.

Both in the early volumes of the *Gardener's Magazine* and in the *Encyclopædia of Gardening*, Mr. Loudon had strongly advocated the necessity of having garden libraries, and, in the second volume of the *Gardener's Magazine*, he gave a list of books he considered suitable for a garden library, in which he included the *Encyclopædia of Plants* and the *Hortus Britannicus*—works then written, though they took so long in printing, that they were not published till two or three years afterwards. It is very gratifying to find that numerous garden libraries were established in different parts of the country, in the course of two or three months after they were first suggested in the *Gardener's Magazine*, and that several letters appeared, from working gardeners, on the advantages and improvement which they had received from the books they thus obtained access to.

(To be concluded.)

VISITS TO COUNTRY PLACES.—No. 7.
AROUND BOSTON.

THE neighborhood of Boston stands very high as a horticultural region; probably more exotic grapes are grown there, within a circuit of ten or fifteen miles, than within the same distance around both New York and Philadelphia; we heard the weight estimated at forty tons some years since, and great additions to the glass structures of the vicinity have latterly been made.

The interest in the products of the garden and greenhouse, manifested by the members of the Horticultural Society, and the citizens generally, is shown by their attendance on a weekly exhibition of fruits and flowers, which is well sustained, and very useful in extending a knowledge of what is passing, and in season, and in keeping up a generous rivalry. The weather, while we were there, was unpropitious for sight-seeing, but our horticultural party, somewhat reduced in numbers, took several opportunities of visiting the neighborhood, and accepting the kindest hospitality. To complete the list, however, it will be necessary to take another occasion, and a longer time, to describe so celebrated a region. At present, we can only give the results of a few brief notes hurriedly taken.

H. Hollis Hunnewell, Esq.'s country residence, near the station of the Worcester Railroad at West Needham, presents, for a new place, evidences of great enthusiasm and success in planting. The neighborhood is the scene of the labors of that eminent missionary among the Indians, Elliot, who was the printer of the extraordinary Indian Bible, which was his great labor of love for the aborigines. Its press-work, if we remember rightly, was done by a poor Indian boy, and the whole was executed under difficulties such as would appal a modern typographer. Those noble old elm-trees, which were planted by the natives in front of their minister's house, in Natick, near Mr. Hunnewell's, still stand as mementos of the gratitude of the converted red men. The trees in this vicinity are remarkably fine and numerous, and evidences exist in every direction of great progress and improvement.

Mr. Hunnewell has a large farm, and has devoted a considerable portion of it, most judiciously, to ornamental planting. Not having so great a variety of trees to select from as we have in the Middle States, he has brought together such as are hardy in Massachusetts with a liberality which promises to produce very great results. His noble mansion is situated on the banks of a very fine lake, which possesses the advantage of considerable depth, and being supplied with abundant water, is perfectly free from any unwholesome exhalations, is well stocked with fish, and efforts are making to introduce other varieties, by using spawn imported from France. This subject, we are glad to know, is employing the thoughts and purses of many Americans, and we anticipate the happiest results. Mr. H.'s dwelling stands high above the lake, to which a terraced garden, interspersed with fountains, and gay with luxuriant flower-beds, leads the visitor almost imperceptibly. Inclosing these beds we noticed an arrangement which was new to us—that of the use of large square iron castings for borders; these are cast thinly, with raised figures on the outer sides, and being light, can be moved from place to place as required; they give a neat look, occupy almost no space, and may be employed wherever box edging, which we prefer, will not flourish.

The fountains, as well as water for the whole place, are supplied by a steam engine of three horse power, which will pump 30,000 gallons a day, and grind at the same time. This engine cost \$500; with the mill, \$700; but at the present

moment, so much has this useful machine been simplified, an engine on wheels, of the same power, can be purchased for perhaps half the money. It is a most desirable acquisition to a country place.

We have already recorded Mr. Hunnewell's eminent success with the Stanwick nectarine; his graperies, peach-house, greenhouse, and gardens, are entitled to high commendation; Mr. Harris, his gardener, is a most intelligent cultivator; he reads and studies his subject, and we could not but remark the greater intelligence everywhere between the reading and the unlettered controllers of gardens; all the difference, in short, between knowledge and stupidity; ten words uttered betrays the difference. Mr. H.'s grapes were equal to any we have ever seen, both in weight, color, and flavor.

Mr. Hunnewell showed us several successful attempts in trimming into shape a tree, which would have been one of the last we should have thought of attempting. The White pine, taken young, bears shearing in a most wonderful manner; it has been made to assume various fantastic as well as ornamental shapes, such as no one, who had not seen or heard of it, could have anticipated. If this can be effected with so loose and open a tree, what may we not expect might be accomplished with the Bhotan or *Pinus excelsa*, with its closer habits, and more numerous branches and leaves. Altogether Mr. Hunnewell's residence promises to become, as it already partially is, one of the most attractive "around Boston."

It is a great treat to the Horticulturist to pass a day at Dorchester with Marshall P. Wilder, the efficient President of the Pomological and Agricultural Societies. His premises do not comprise more than twenty or twenty-five acres, but they exhibit an industry and results of high culture, in a climate of some more difficulty than our own, that might prove a useful example. His collection of Pear and other fruit-trees is world-renowned, and justly so; among the new, from which good is expected, we pencilled the names of Buerre de Wael, Consellier de la Cour, Triomphe de Pomologie, Emile d'Heyst, Pius IX., Beurre Wetteren, Henri Bivort, Poire de Nonnes, and Dorothee Royale Nouvelle; as these are new and just fruiting, we are promised descriptions when the time of the Colonel, so fully occupied, permits. Mr. Wilder has given his views on the subject of pear culture, dwarf and standard, in his address at Rochester, and published in the November *Horticulturist*, so that we need not enter upon it now; he has pears on dwarfs of twenty-five years' standing in full health and bearing, as he says, to answer any doubts on that subject.

Mr. Wilder cultivates, as the best Raspberries, Orange, Cushing, and Knevet's Giant; Strawberries, Burr's New Pine, which is fully as early as Jenny Lind, and "best;" the Monroe Scarlet, as promising well, and nearly as early. He considers Jenny's Seedling one of the most desirable varieties, coming in rather late. Of Currants, we found here the following new sorts: La Fertile, Hartif de Bertin, Versailles, Precocce de Tours, Caucase, Goundin White, and Cerise Rouge.

In the address we have already alluded to, will be found Mr. Wilder's views on fruit-rooms, and we have only in conclusion to remark on his fine collection of Camellias; the specialties of his greenhouses are Wilderii, Mrs. Abbe Wilder, Maria Louisa, Grace Sherwin, Glory, &c. &c.

The late Mr. Becar, of New York, a friend of Colonel Wilder, has left a new and splendid Camellia, to be dedicated to the memory of the late Mr. Downing, in which all lovers of horticulture will take a warm interest. Mr. W. agreed with us in thinking it might be well to employ the proceeds of this elegant plant in founding some experimental garden, or in a gold medal for extraordinary merit. We should be glad to know what were Mr. Becar's views on the subject.

Kernwood, the residence of Mr. Peabody, near Salem, is quite remarkable, from

the good taste shown in the arrangement of the grounds, the planting, and the pretty English pastoral character of the views, as well as from the interior decorations and embellishments of the house, most of which, we understand, were by Mr. Peabody's own hands, and many of the cabinets, mantelpieces, &c., being either actually carved by him, or designed and executed under his immediate supervision, with a degree of excellence little inferior to the best German artists.

Linnere, the residence of R. S. Fay, Esq. We well recollect, some years since, Mr. Hovey's interesting description of the trees which Mr. Fay (then in England) sent out, and many of which now must doubtless be fine specimens. If we remember right, *Linnere* resembles somewhat, in its general characteristics, Mr. Hunnewell's place at Natick, only much larger, there being 500 acres or more in the estate, mostly surrounding a lake; as yet Mr. Fay has not commenced his improvements in building, having principally devoted himself to planting large tracts of land and the various hillsides with larches, Scotch firs, &c., of which many thousands have, we learn, been set out. If Mr. Fay builds a house and carries out all his improvements, *Linnere* will resemble more entirely a large Scotch estate than perhaps any place in this country, the natural character of the lake and hills resembling portions of Scotch scenery, which will be still more the case when the Scotch firs and larches become more effective.

The residences of the late Col. Perkins, Gen. Lyman (now, we believe, in possession of his son, and celebrated for its beautiful avenue, one of the finest in the country), Mr. John E. Thayer's, with a very remarkably fine house, built by Upjohn, James S. Amory's, Mr. J. L. Gardener's, should be enumerated, as well as Mr. Lee's, whose lawn Mr. Downing celebrated so many years since; "Pine Bank," the beauties of which a late number of *Hovey's Magazine* so well and ably describes, Ignatius Sargent's, celebrated for its grapes almost fabulous in size and weight, "Belmont" (Mr. Cushing's), which all admirers of horticultural success know so well. *All these*, and many more we had no time to see, or did see so imperfectly, that we shall postpone all description of them until we can do them better justice. We cannot, however, omit saying, that for general excellence of cultivation, for universal good keeping, and the most distinguished success in all they undertake, the residents of the environs of Boston still continue to bear away the palm, as they have done for a quarter of a century.

We paid a short visit to the Botanical Garden at Cambridge, which is under the control and excellent management of the eminent botanist, Dr. Asa Gray, and were extremely gratified with the order and neatness, no less than with the great variety of plants and trees here assembled. These would be much more numerous but for the impediment of climate, and yet, with this disadvantage, the student will find here much that is new and interesting.

We found Dr. Gray busily engaged in preparing a work on American trees for the Smithsonian Institute—a book not yet announced, and one which, from the difficulties of procuring correct engravings, and the accuracy which characterizes all that Dr. Gray does, will, we presume, be a long time in execution.

Hovey's Nurseries.—We called, on the way to Dr. Gray's, at the house of Professor Longfellow; then visited the extensive nurseries of C. M. Hovey & Co. Their pear-trees, both dwarf and standard, are among the best we have ever seen, and produced fine results in 1856. Mr. Hovey is a firm believer in dwarfs, and those who know him, know with what enthusiasm he enforces a favorite theory. In the morning we had found him superintending a large show of fruits and flowers in Boston at the weekly exhibition, and here he was again directing and superintending one of the most extensive commercial establishments in the Union, one, indeed, that has exercised no inconsiderable influence on our country's

progress. We noticed here the new strawberries, Sir Harry, Sir Charles Napier, and Admiral Dundas, which have been so popular abroad. We noted also, a new Lantana, *Lutea* superba, which will command attention, as will *Ardisia fructo alba*, and a hardy *Erica*, *E. vulgaris*, which withstood the dreadful winter of 1855-56. Mr. Hovey has a new seedling *Arbor vite*, somewhat like *Aurea*, but which promises to be more valuable; many seedling varieties of *Azaleas*, yellow, &c., and hardy; he has found *Cephalotaxus* and *Podocarpus* hardy. A new weeping elm, a cut-leaved oak, and the weeping *fountain* willow, a new and most beautiful tree, the purple sycamore, &c. &c. &c., we find noted in our hasty pencillings, and here, as well as at Dr. Gray's, we saw with great admiration the neglected *Rhododendron punctatum*, a native variety, loaded with flowers, and of a pendulous habit. Mr. Hovey has a fine stock of *Siberian Arbor vite*, and also of *Virgilia lutea*. In short, this establishment deserves well of the country, and is to Boston what Mr. Buist's is here—a never-failing resource for new plants. Every department receives attention, though, of course, there are *specialities*, which they attend to more as personal matters, than as nurserymen. Among fruits, the speciality is the *Pear*, of which they have an immense collection, including *every known variety* to be found in France, Belgium, or England, and of *native* kinds by far the most complete collection, embracing over *one hundred* sorts. Nothing remains to be added but the new kinds, as they yearly make their appearance.

But they pride themselves on their collection of specimen trees, numbering *twenty-five hundred*, the oldest planted in 1842; these are all bearing trees, planted *round* the grounds, and not through them. The crop of pears in 1856 was 500 bushels, quite equal to any produce in Europe.

Of apples, they have one long walk, bordered on each side with 300 trees, of that number of varieties, and now just coming into bearing; they were set out in 1844, but as they prune them in to make dwarfs of them, they are very slow in bearing.

Among shrubs, their speciality is the collection of "American Plants," as the English call them, viz: *Rhododendrons*, *Azaleas*, &c. No such collection is to be found except at Bagshot, and the great American plant growers around that part of the vicinity of London. They have many hundred *flowering* plants of all the best Belgian and English hardy sorts, and thousands of seedlings of their own. The ground is peaty (one part of it), and they grow in perfection.

Among hardy plants, a speciality is the herbaceous *Paeonies*, of which they have great quantities, including the very latest new ones; and another, and perhaps greatest of all in the ornamental department out-doors, is their *Japan lilies*, of which they had two beds of 1000 bulbs, embracing some of the finest seedlings yet known. One bed was a treat well worth going from Philadelphia to see. These are favorite flowers, and much time has been devoted to the production of new sorts by hybridization with the native hardy and old *Tiger* species; these seedlings partake of the hardy character of those, while they are far more brilliant than the imported *Japan* plant.

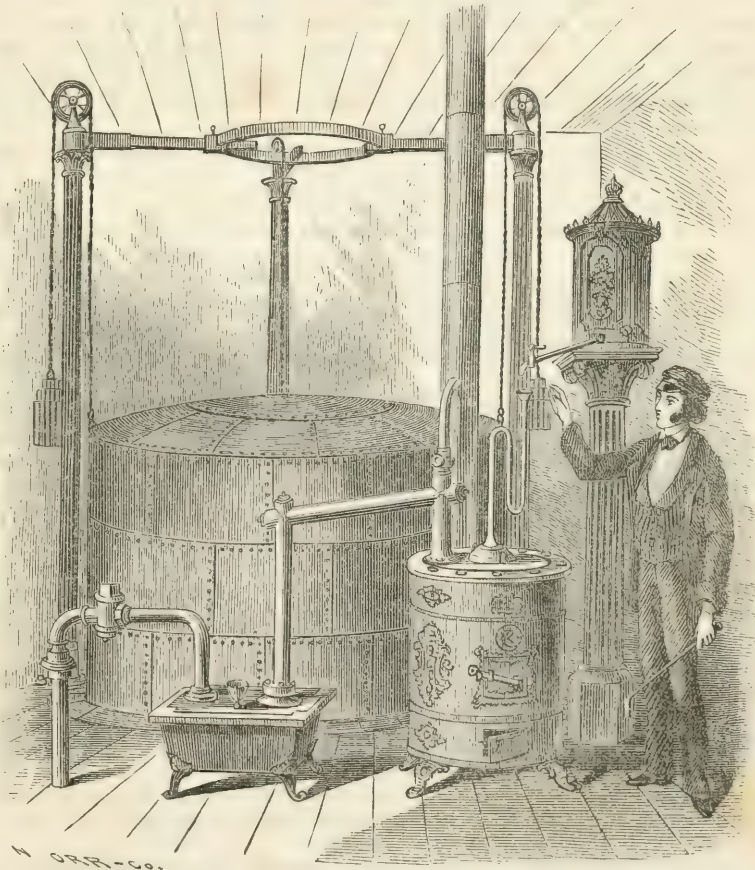
In doors, the speciality is the *Camellia*, of which they have a most extensive collection of some 300 varieties, and upwards of twenty seedlings, among which are some very superior kinds. Two of them they intend to offer for sale this year; one is a remarkable production, having flowers of four colors on the same plant, and holding that character now in the fifth year of its flowering. Another is almost a scarlet; the Mass. Hort. Soc. gave them the medal of \$60 for this about three years ago. Drawings of them will soon be sent out. Such are some of the more prominent things noted at this establishment, where, however,

they do not neglect any of the numerous classes of plants which make up a collection.

In our next "ramble," we shall be obliged to change our locality, having, for the present, exhausted our Boston notes, without having mentioned a tithe of its horticultural importance. We neglected to take notes of exhibitions of the Massachusetts Horticultural Society, but they are published, and such lists will scarcely keep.

GAS FOR COUNTRY HOUSES.

WE have already noticed the fact that very many country people are introducing gas of their own manufacture, and that, after the first outlay for the fixtures, the gas costs less than the price paid by citizens. So much is the custom on the in-



crease, that several manufactories exist, in different places, for preparing the apparatus. We shall take that of the "Maryland Portable Gas Company" as our illustration, and merely state that the simplifying of the machinery has been attended with

such success, that the difficulties and dangers of the manufacture have vanished, and a new era in the mode of lighting private dwellings, churches, hotels, public and private schools, villages, factories, &c., has been opened. Gas lights, heretofore considered a luxury only to be enjoyed by those residing in cities, can now be employed in every place. Simplicity, safety, and economy, have been studied, and the results are so satisfactory that we anticipate a large business for the manufacturers, and increased orders for gas fitters.

Our illustration represents a simple cylindrical vessel, containing the oil from which the gas is generated. The retort is an iron, hollow cylinder, with a spheroidal bottom and flat cover, bolted and screwed to a projecting rim. The stove containing the retort is of sheet or cast iron, arranged upon the most approved plans, to economize the heat. The siphon box, or condenser, is a cast-iron vessel, with a movable lid bolted and screwed upon it. This is divided into compartments, and half-filled with water, with a siphon attached, so as to keep the water at all times to its proper level. The water tank, in which the gasometer floats, is made of wood or iron, and placed upon the surface of the ground, or, which is better, sunk to the level of the water. The gasholder is of sheet iron, suspended upon fixed pulleys, and forms the receiver for the gas when generated and ready for consumption. The reservoir communicates with the retort by a feed-pipe, or by a feed-pipe and cock, through a siphon screwed into the cover of the retort.

This siphon connects with a tube suspended perpendicularly in the middle of the retort, pierced with small holes in its lower end. Through this feed-pipe and siphon the liquid passes into the tube thus suspended, and, by the small holes at the end of the tube, becomes dispersed upon the bottom and sides of the retort.

The working of the machine, and management of it, require no more than ordinary skill, and may be safely intrusted to a domestic. A fire is made in the stove as in an ordinary furnace, and the retort is heated to a bright cherry-red heat. The cock is then opened, to allow the oil to pass in through the pipes from the reservoir upon the heated sides and bottom of the retort, where it is instantaneously converted into gas.

Ascending from this decomposing chamber, the gas is forced through a superstratum of chemical substances suspended upon an iron grating for its purification into a vacant upper chamber, thence it is conducted by an iron pipe into the condensing box. This iron pipe, passing through the cover of the condensing box, descends below and discharges the gas into the water of the condensing box. Thence it rises into the vacant chamber above the water, which, becoming filled, forces the gas again into the water under one of the several compartments above referred to, into a second chamber, and then on through consecutive baths before it finds its exit from the last of the series of consecutive chambers.

This exit is through a pipe which communicates from the condenser with the water tank into which it enters, and, passing through the water above, again descends, and discharges the gas into the water for its last bath, thence it rises into the vacant chamber of the gasometer, ready for use. Connected with the siphon of the condenser is a small covered vessel, which receives the impurities washed from the gas in its passage through the baths. The machine, as above described, occupies a space of eight feet by twelve, and in height thirteen feet, with the tank upon the ground. If the tank be sunk, then the height will be but seven feet.

The material used is an oil from rosin, though not what is generally understood as rosin oil. It is an earlier, cheaper, and better product of collophony, decomposable at a lower, and therefore more economical degree of heat. There cannot be found, in the whole range of chemistry, a compound more richly laden with

illuminating qualities, or yielding gases more innocuous in respiration, or less injurious to furniture, for it contains neither carbonic acid nor sulphuretted hydrogen.

The supply of this material is inexhaustible, and any anticipated demand can scarcely enhance the price. It is now delivered at the Company's Works, in Baltimore, at eighteen cents per gallon. Each gallon of the raw material may be safely estimated to make one hundred cubic feet of gas from this machine. The apparatus, as above described, with a gasometer of the capacity of a hundred and thirty cubic feet, will contain an average of a week's supply, to an ordinary family, the year round, and is sold at the Company's Works, in Baltimore, complete, for \$350. They are made, however, of any required capacity, and adapted, in form and size, to the necessities of the space they are to occupy, and the requirements of the burners they are to supply.

Of course these requirements and necessities are so varied, and so materially increase or lessen the cost of the whole machine, that it is difficult to furnish a tariff of prices suited to all occasions; and persons intending to employ this apparatus, will of course address the manufacturers, who have spent much time and money to bring about the results now consummated. The principle and its application through this machine, are now no longer a matter of mere experiment. We congratulate the public on this new source of comfort being perfected, and brought within the reach of country families.

NIGHT TEMPERATURE.

BY AMICUS, PHILADELPHIA.

FACTS have been found sufficient to demonstrate that it is the purpose of nature to reduce the force which operates upon the excitability of vegetation at that period of the twenty-four hours when, from other causes, the powers of digestion and assimilation are suspended. As far as is at present known, that power is heat, and, therefore, we must suppose that, to maintain, at night, in our hothouses a temperature at all equal to that of the day, is a practice to be condemned. Plants will, no doubt, lengthen very fast, at night, in a damp heat, but what is produced at this time, seems to be a mere extension of the tissue formed during the day, and not the addition of any new part; the spaces between the leaves are increased, and the plant becomes what is technically and very correctly called "drawn," for, as has been justly observed, "the same quantity only of material is extended to a greater length, as in the elongation of a wire."

Some observations made in the garden of the London Horticultural Society, a few years since, place this in a striking light. Certain plants were placed for some weeks in a stove, with a high night temperature supposed to average 69° ; the rates of growth, in inches, showed that they grew as fast by night as by day; but, when the same kind of plants were grown in the open air, the growth was double or treble by day what it was at night, and continued observation of many plants produced the curious result that the total growth, by night, in the open air, was 119.07, and by day, 337.16.

Thus we see that plants exposed to natural circumstances only made one inch of growth by night, while they made three by day; but that, on the contrary, under bad artificial treatment, they grew *equally day and night*. The inevitable consequence of this inversion of natural growth, is immature or unripe wood, with imperfect, ill-constructed buds, and a feeble constitution, incapable of bearing the shock of great falls of temperature. More especially, water accumulates in the

system, and is never decomposed or removed by perspiration, in the requisite degree. In short, plants growing fast by night, can neither ripen their wood nor form their inner structure well, and, therefore, they are incapable of developing their natural beauty, or of resisting those extremes of temperature which are natural to them.

That greenhouses ought not to be heated at night more than is sufficient to exclude the frost, is certain; that, if properly prepared, plants will bear frost, is also indisputable, as, indeed, is proved by the camellias, Chinese azaleas, and other plants, which are kept in cold frames through the hardest winters, and where they thrive far better than in greenhouses.

With stove plants it is different; experiments are needed to determine how much cold they will bear at night. There seems to be no doubt that the colder they can be safely kept, the better for their health. A celebrated gardener assures me that he keeps his stove plants, during the winter months, at no higher temperature than from 40° to 50°; it is true, his employer desires late-blooming plants, but he has the roof covered with creeping stove plants, including *Cambretums*, *Bignonias*, *Passifloras*, *Stephanotis*, &c. When the warm days of spring return, they break with unusual vigor, enjoying, as they do, almost a natural climate; his *Bignonia venusta* is covered with bloom, and the *Stephanotis* blooms in July—the *Passifloras* throughout the year.

These facts are deeply interesting, and may serve for hints to those gardeners whose employers reside in the city in winter; they may have a gay house when the family returns in the spring.

A FEW WORDS ABOUT SICKLY PEAR-TREES.

BY THE LATE A. J. DOWNING.

I FIND, on looking about my garden, talking with fruit growers, and looking through the pages of your paper, that it is an undeniable fact, that a good deal more difficulty is experienced in cultivating the pear than any other of the popular fruit-trees.

The time was, indeed, when pear-trees—great, strong, lofty trees, too, though the fruit was rather *chokey*—grew around every farm-house, bore cart-loads of fruit annually, and were looked upon as able to “stand more hard knocks” than even an apple-tree. Longer lived the pear-tree certainly is, by nature; and, as standing venerable proofs of this, I refer you to the *Endicott* Pear-tree, near Salem, and the *Stuyvesant* Pear-tree, in New York. As both of these trees are above two centuries old—by veritable records—it is not worth while to spend time in proving that the pear is, naturally, a long-lived tree.

But, in fact, natural pear-trees—that is to say, the chance seedlings of the common pear that spring up by the sides of lanes and fences—are as hardy and as great bearers now as they ever were. What, then, is the matter with all the sorts whose tenderness our fruit growers groan over?

Is it not owing to the delicate constitutions which these foreign varieties, bred in a more regular climate, have, and which makes them peculiarly alive to our great excesses of heat and cold?

Is it not true, in rich and deep soils, where delicate trees are forced into a sappy condition, when the limbs are too full of juices, upon which the frost or sun acts readily, that blight and other diseases of the pear are most frequent?

Is it not true that foreign varieties of pear, especially those originated within

the last few years, are far more delicate and liable to disease than native sorts of equal merit, raised from seed in this country?

I throw out these queries to set some of your ingenious and practical correspondents, in various parts of the country, at work to furnish materials for answers that will settle some knotty points. For my own part, I have made up my mind that, to grow fine pears for profit, we must, in order to save the trees and keep them sound, keep the trunks and leading branches covered with a light *sheathing of straw* all the year round. This guards the bark of the principal parts of the tree from all excesses of heat and cold. I have experimented for four years past with this plan of sheathing, and can say that I am quite satisfied with it. Among three dozen pear-trees now just come into bearing, one-third of them have been kept in straw, and not a single one of that dozen has suffered by blight or other disease; while, of the remaining two dozen, nearly one-half have dropped off, and been dug and consigned to the brush heap. Some careless farmer or gardener—fond of *shirking* everything that he can—will say: “But who can take the trouble to straw all his pear-trees?”

You can, is my reply. Try it on half a dozen trees, and keep an account of the time and labor spent in it. It will amount to a few cents per tree—not the price of half a peck of Virgalieus in the York market. And if you can gather pears by the cart-load—for no fruit ripens better, or has a higher flavor, than the pear, in this climate—if, I say, you can gather pears every year by the cart-load for only the trouble of strawing the trees, then the blight take you if you are too lazy to do it!

AN OLD DIGGER.

FROST, AND THE CUNILA MARIANA (L.), OR DITTANY.

BY J. STAUFFER, MOUNT JOY, PENN'A.

THE common Dittany, a perennial of the Mint family, with small, purplish flowers, in corymbed cymes or clusters, growing on dry hills from New York to Kentucky, is too well known to require any further description.

In August, we frequently observe a capsular body amid the ordinary fructification and flowers of this plant, which was first pointed out to me by Prof. S. S. Haldiman, desiring me to pay attention, and try to discover what insect produces the excrescence. Notwithstanding my desire so to do, I have not succeeded.

December 6, 1856, happening to pass through a wood of chestnut sprouts interspersed with the red cedar, near the Willistown Baptist Meeting-House, in Chester County, I observed the dry remains of stems, foliage, and fruit, of quite a number of plants of this species, with the expectation of finding, at this late season, the empty cells or larvæ of the insect. I made diligent search, but could find no trace of such a pod-like excrescence. What, however, amply recompensed me for the attention bestowed, was the discovery that this plant is peculiar, and is truly a *frost plant*, far exceeding the *Helianthemum Canadense*, or *Frost-Weed*, as it is popularly called, from the fact that, late in autumn, crystals of ice shoot from the cracked bark at the root.

Our Cunila has attached to the stem a shell-work of ice, of a pearly whiteness, beautifully striated, sometimes, like a series of shells one in another—at others, curved round on either side of the stem like an open, polished, bi-valve; then, in others, again, curled over in every variety of form, like the petals of a tulip. Though one o'clock P. M., and the sun shining brightly, I carefully took up several specimens, and conveyed them three hundred yards, to the dwelling of Mr. Griffith, and exhibited the frost flowers to the family. No other herb or grass had any

such frost-work around them, having paid particular attention; while at least fifty specimens of the *Cunila* examined were so ornamented.

We naturally speculate as to the cause. On tasting the ice, no aroma was perceptible; the root manifested a vigorous young bud under ground.

Plants, in germinating, have the power of generating heat. That the atmosphere absorbs caloric from bodies, and deprives them of fluidity in the form of vapor, is well known, and this vapor, congealed, we call frost. This heat is evinced by the more speedy melting of snow, when in contact with their leaves and stems, compared with what is lodged upon inorganic bodies, provided the preceding frost has been sufficiently permanent to cool those substances thoroughly.

Mr. Hunter has tested this fact by the rise of the thermometer; and Lamarec mentions an extraordinary degree of heat evolved about the time the *Arum maculatum* bursts its enveloping sheath. This is the case with our common Indian turnip—the *Arum triphyllum* also.


Though this may not be observable by our sensation of feeling, we are not to suppose it absent; even the thermometer only enables us to judge of the state in which the caloric is, with relation to surrounding bodies, without regard to its quantity.

That vegetation is not wholly suspended, however cold, as some suppose, is clearly proven by the experiments of Hales and Du Hamel; but there is a regular and gradual progress till the returning warmth of spring gives a degree of velocity to the juices, rendering their development more vigorous and apparent. The power of cold on vegetables is well known, and, though the frosts of severe winters are, on the whole, more injurious to vegetation than those of spring, yet the latter are productive of more extensive damage, because their effects are evident almost every year. Frosts act more powerfully on ground newly cultivated, on account of the vapors continually ascending from such soil. Trees recently cut, also suffer more than others from spring frosts. Hence, likewise, light and sandy soil are thus more frequently damaged than tough land, though both may be equally dry.

Although it has been generally believed that frost meliorates the soil, and especially clay lands, yet, as ice contains no nitrous particles, such improvements can only be of a transitory nature, by enlarging the bulk of some moist soils, and leaving them more porous for some time after the thaw; but when the water has exhaled, the ground becomes as hard as before, being compressed by the incumbent weight of the air.

To conclude, for the benefit of some I will add, that Mr. Baum found, by immersing quart bottles, filled with newly-distilled liquors, into a mixture of pounded ice and sea salt, for six or eight hours, the spirit proved as grateful to the palate as that which had been kept for several years. Geoffroy remarks that simple waters, also, acquire a more agreeable flavor after having been for some time exposed to the effects of cold. The effects on beef, poultry, &c., are known to everybody.

[Dr. Darlington, in his *Flora Cestricea*, says of the *Cunila*: "In the beginning of winter, after a rain, very curious *ribbands of ice* may often be observed attached to the base of the stems—produced, I presume, by the moisture of the earth rising in the dead stems by capillary attraction, and then being gradually forced out horizontally, through a slit, by the process of freezing."]



GARDEN VEGETABLES NO. 2.—THE CAULIFLOWER.

BY WILLIAM CHORLTON.

WE do not always find that this delicately flavored esculent is either grown or cooked in the best manner; a few remarks may, therefore, be useful respecting it.

The Cauliflower is generally considered to be only one of the many forms of the diversified cabbage, the primitive type of which is a small, open-leaved, cruciferous, yellow-flowered plant, found growing wild upon the cliffs near the seashores of Britain, and known to botanists as *Brassica oleracea*. There is, perhaps, no genus of plants which presents more singular peculiarities than this; for, while the different varieties can be, and are continually, kept true to sort from seed, the whole will most readily fertilize while in blossom with each other; and it is further necessary that only the most correct samples should be allowed to produce flower, if the best quality be required in the after progeny. Owing to our excess of heat during the summer, the seeds are generally defective, and, in most cases, entirely abortive, and we have to depend upon the milder climates of Europe for a supply. This being the case, small growers are entirely at the mercy of the seedsman; and as, to say the least of it, some seed-growers are not over particular, it behooves those who import to be careful from whom they purchase. The seed lists contain a number of varieties of *Cauliflower proper*, but, if all be obtained, the difference, if any, that will be found, is only a deviation of quality; so that, if we get the best in this respect, we shall have fine heads with good culture.

The Cauliflower cannot be grown to perfection under the shade of trees, near a building, or close to a fence. An open, clear spot should always be chosen; it delights in a rich, well-worked, and porous soil. Fresh land, well manured, is to be preferred, and burnt turf sods, or vegetable refuse, in addition to barnyard manure, is of much service, and if, besides this, a liberal supply of liquid drainings from the dunghill be given while growing freely, the plant will be enabled to bring out its greatest excellence. An ordinary sample may be got with slight manuring, but, like all other garden products, the best practice is here found to be most economical.

In some parts of Europe, cauliflowers may be had all the year round, but, during the hottest part of our summers, if the same were to be attempted, we should only get a production of leaves, and little or no heads; we may, however, have them, with a short intermission, from the beginning of October to the middle of July, and how to accomplish this will be seen below. The times of sowing are given for latitude 41° , south of which it will be somewhat later, and north a trifle earlier, according to distance.

For Fall and Midwinter Use.—About the last week in May, choose a plot of not over-rich soil, dig and break up well, and sow the seeds thinly in drills, one foot apart and half an inch deep. If the earth be very dry, give a good soaking of water previous to opening the drills; let this percolate down for a time, until the ground will again work without clogging, and, after sowing, water over again lightly; this will settle all close, and enable the seeds to vegetate freely and quick. In the course of five or six weeks, the plants will be large enough to transplant in their final places. If the soil is not very fertile previously, dress over a plot as large as may be required with barnyard manure—say two barrow loads to each square perch—or decayed vegetable matter in the same proportions, to which may be added one pound of guano; dig or plough all in, and plant two feet apart,

putting each plant down to the crown, so as to secure a better hold in the soil and prevent the winds from tearing them out when they become large. Many persons practise earthing up the stems, but our own experience speaks to the avoiding this; for, if the summer should happen to be moist and warm, they are very subject to rot from extreme succulence in the stalk. This need not prevent the stirring of the soil, and a thorough loosening with the hoe or spade will always prove very beneficial during active growth. This stock will begin to head about the first week in October, and continue on in succession until the frosts are expected to set in severely, when the remainder of the plants may be carefully lifted and buried up to the collar in soil in a cellar, a grapery, or, where there is no such convenience, they may be put in a trench in the garden, and covered over with leaves and boards so as to keep out the frost. In any of these positions, they will continue to head until February, and may be cut as wanted.

For Early Spring and General Summer Crop.—The seed may be sowed the last week in September, in the same way as above stated. In all latitudes where the frost is severe, these plants will require some winter protection. When they have grown three or four leaves, they may be planted four inches apart, in a box frame, and covered with glass sashes or shutters. The former is much the best; but will need to be covered with straw mats or other such material during extreme cold; the outsides, also, ought to be banked up with earth or litter, to keep out the frost. Give air at all favorable opportunities, remove the covers entirely in mild weather, but shut up and cover when there is frost. Never give water to these young plants during winter, but endeavor to keep dry and cool; this will prevent them from decaying in the "shank," a disease that is very common when there is an excess of moisture. If at any time they become thoroughly frozen, let them thaw in the dark, and afterwards let in air and light in abundance whenever the temperature is above 32°, and never leave the glasses shut when the sun shines on them. Many persons do not succeed in wintering young cauliflower plants, and principally from the neglect of the precautions here laid down. When the fall sowing has not been attended to, a slight hotbed may be made in January as follows: Mark out on the ground, one foot larger on each side than the size of the frame, excavate one foot deep, build up evenly and somewhat solid, to the height of three feet, with hot stable manure in the earlier stage of decomposition, upon this place the frame and glasses immediately, and, when the heat has begun to subside a little, cover over with five inches of friable loam, and in this sow the seeds. Be careful to tilt up the sashes behind whenever the temperature inside rises over 50°. This will allow the steam to escape, and secure a wholesome atmosphere. When the seed-leaves are above ground, admit air more or less as opportunity occurs, but maintain sufficient heat to keep up a healthful progress, and increase the opening as growth expands. The object now is to get short and stocky plants, which never can be obtained without a free admission of air and light. The frost must, however, be guarded against, for in this state they will not bear it, nor yet until they have been gradually hardened off. They should, also, be taken up when the first rough leaf is formed, and pricked out into the same bed, three inches apart, for the purpose of increasing the small fibrous roots and assisting the above desideratum. This last-described process is only a "make-shift," and ought never to be resorted to when winter-kept plants can be got, as these latter are always more hardy, and generally bring the finest heads.

To obtain a first early crop for the kitchen, it is necessary to make up a similar hotbed to the one above specified, about the middle of February, of any size, according to the quantity required or convenience of glasses at hand. In this case, there should be nine inches to one foot of rich mould introduced, plant out

eighteen inches apart, keep close for a few days, afterwards give air freely, shut up at night, and cover to keep out frost; water as occasion requires, and take advantage of any warm showers that may occur.

General Summer Crop.—At the beginning of April, have in readiness a well-dug or ploughed, and enriched, openly situated piece of land; plant out two feet apart, and, if the weather be at all dry, give a quart of water to each plant. This will settle the soil around the roots, and should be always practised, excepting during rain. When the plants begin to grow freely, a spading or deep hoeing between the rows is of great service, and more than repays the extra labor. When the heads are half grown, the leaves may be broken across the midrib, and the tops curved over, which will obstruct the light, and cause the flower to be pure white and better flavored.

How to Cook a Cauliflower.—The good or bad cooking of this vegetable makes so decided a difference that it may be unwholesome and tasteless, or nutritive and delicious; and perhaps a few words on this part of the subject, derived from my wife's experience, may be of use to some of your readers. Immerse the heads in hot water, in which has been dissolved a tablespoonful of common salt; simmer very slowly one hour; do not let the water boil, or the flowers are subject to break; take out into a colander, cover close to keep hot whilst the water drains thoroughly; have ready a little toast to place them on, and pour over some nice thick melted butter.

The insects which infest this plant are a small *black beetle*, about the size of a pin's head, that jumps like a flea. It is so destructive in some localities as to eat up the entire stock of seedling plants in a short time, and is always in most abundance in dry and hot weather. A sprinkling of wood ashes, lime, or soot, used while the dew is on in the morning, will keep it off, but the remedy ought to be early applied, and repeated if washed off by rain. A species of *aphis*, a glaucous colored little fly, sometimes attacks the roots, and ascends, also, to the leaves; they are gregarious, and exist by sucking the juices, and exhausting the plant. In this case, I have always found caustic lime, in powder, dug into the ground, and around the plants, and also sprinkled over the leaves, to be effectual. The same remedy is also of service against the cut-worm, or other caterpillars, which are sometimes troublesome.

So far, I have only treated on the *Cauliflower*, without any reference to its near ally *Broccoli*; and, as you will no doubt think this communication sufficiently long, we must defer it until some future opportunity.

REMARKS ON SOME OF THE NEW CHINESE PLANTS.

BY J. B. GARBER, COLUMBIA, PA.

THERE is now much interest manifested in regard to some of the recently introduced vegetables and plants from China and Japan. As I have had several of them in cultivation two and three years, it may, perhaps, not be amiss to give my views and experience as to the adaptability of some of them to our climate.

The *Dioscorea batatas* I have had for two years, and have ventured to test my small stock as an esculent. Possibly, some of your readers would be encouraged to try it, who have kept aloof for fear of "multicaulis," did they know its real merits. Farmers and horticulturists have been so often "humbugged" that they fear to venture on a new thing, and more particularly as regards this root, from its high price, and also on account of several writers in different papers trying their best to frighten the timid.

A correspondent of the *Dollar Paper* last summer cried "humbug" even before he saw the plant grow, because his tubers *rotted on the way*, and he had to pay express charges for *rotten tubers*—so, of course, it is a "humbug."

A lady, in the *Homestead*, gives the following receipt for making it: "Take," she says, "a small Irish potato, wet and weedy; add to it a turnip tolerably stringy, and not too rank; splice them together lengthwise, with a morning-glory vine on top; cultivate strenuously for two years, puffing it in agricultural papers; then dig up one root (large crop!) six inches long and three round! (immense size!) ; boil, and eat—if you can."

In the *Farm Journal* for November—again copied from *Homestead*—a wag (probably the Editor!) says: "Some twenty years since, France—that land of beautiful things and Mississippi bubbles—brought out the Rohan Potato, and, from a coarse, rank, yellow-fleshed vegetable, made a dish the gods might have envied. After a long gestation, and with exemplary patience, prophetic of the coming prodigy, this mother of rare things is again parturient, and the world looks on with admiration and astonishment while the offspring is baptized *Dioscorea batatas*; a bubble more injuriously framed and carefully nurtured than the Rohan, but just as truly filled with wind." He continues on in this strain, but it is useless to copy. Then, the Rev. M. S. Culberson, who was ten years in China, says: "It is never eaten, except by some of the very poorer classes, &c., as an accompaniment to rats and young puppies, &c. &c."

Now, Mr. Editor, can you tell me what is the meaning of all this twaddle? Have these persons cultivated and eaten of it from their own raising? or, is it because *they* haven't got a stock of it *for sale*? I am strongly of the opinion that, had these very writers—these wiseacres!—the article on sale, *they* would laud it to the skies as a *dish the gods might envy*! But, as I intended to give my own opinion of its merits, "without fear or favor," I will briefly say that I procured a single root, or sprout, in May, 1855, and, for fear of accident, kept it in a small pot the first year, where it made no progress. Last spring, it was barely a slender root, less than the size of a finger. I planted it out, in May last, here, and, although the season was very dry till the last of August, it commenced growing vigorously; run up a pole some six feet, and then spread out, producing some four or five dozen of small tubers at the axillas of the leaves. The root I took up in the fall; it was over twenty inches in length, and some three inches in diameter at the lower end. In digging it up, I broke off about three inches of the thickest part; this I had cooked. In flavor, it is not like an Irish or sweet potato, but, in my estimation, superior to either; pure white, no stringiness or toughness about it—more like pure starch than anything I can compare it to. I should suppose, so long as "the very lowest classes" in China have an abundance of this root, starvation *will not* "stare them in the face," though they may use this root as an accompaniment to the other "fixings," according to the Rev. gent. above quoted. I should prefer the *Dioscorea* *without* the other addenda, but you know, Mr. Editor, "there is no accounting for tastes." It appears perfectly at home in our climate, if planted in the spring, and, judging from its habits of growing straight down, may be planted very close, and, in this way, will, I think, yield full as large a crop as the Irish potato, and, should it withstand our winter's cold, in the open air, as it is said to do in France, and continue increasing in size for two or three years, its yield must be enormous. All the small tubers I shall plant next season, with every prospect of great success.

Holcus saccharatum, *Sorghum saccharatus*, or *Chinese Sugar-Cane*.—This is another plant of late introduction from China, and which is now sought after in all sections of the Union, wherever its name and fame have been sounded. This

plant will grow from Maine to Florida, and produce an abundance of syrup superior to the best from sugar refineries, and can of course be turned into dry sugar as easily as the syrup from the true sugar-cane.

Mr. Peters, of Atlanta, Ga., has been experimenting with it, and says "that, on ordinary soil, it will produce from 346 to 468 gallons of syrup to the acre, and that every farmer can make his own syrup at a cost not exceeding fifteen cents per gallon." It is believed by some, that it will supersede the true sugar-cane even in Louisiana. In the Middle and Eastern States, it will probably not produce so much saccharine matter as in the South; yet it will be well worth cultivating, if only for the syrup, should it yield only 300 gallons per acre. What other crop can be cultivated that "will pay" as well? As a forage plant, cultivated broad-cast, cut while young, and tender for soiling, or dried for winter fodder, it is believed that it will be far superior to Indian corn, or any other forage plant yet known.

Japan Pea.—We are also indebted to the Celestial Empire for this plant, now pretty extensively disseminated, and I have often been asked the question: What it is good for? If you will soak them over night in warm water, and, next day, give them a good cooking, serve them up as Lima beans, and do not say they are superior to beans, then I can only say, "tastes differ." The Pea is raised with less trouble, and produces more abundantly in all soils and all seasons than Lima beans. Last spring, we received two new varieties of the Japan Pea *via* California, nothing different, however, except in color, one being green, and the other red.

These new productions are well worth attending to, and neither of those enumerated will be classed with Rohan Potato or multicaule "humbugs," in a few years hence.

It seems as if nature were always provident. Although I am not yet "the oldest inhabitant," I can nevertheless well remember the time when water, horse, hand, and all other "powers," were becoming inadequate to the demand; then, at the very "nick of time," steam became the "motor;" wood was rapidly decreasing in quantity, and increasing in price—lo! and behold! *black rocks* were found an admirable substitute! Hickory and birch brooms could no more be had to do the "sweeping;" then broomcorn makes its appearance just when people began to fear that "sweeping" was soon to be "one of the institutions" that had become extinct. Hemp, flax, and wool, were at one time so inadequate to the demand, that serious thoughts began to arise in the minds of many, how, if population should continue to increase, the people could find materials to "hide their nakedness." Again comes the substitute, just when most needed, in the name of cotton. Thus, as any one particular article becomes scarce or exhausted, Providence provides a substitute.

WINE MAKING.

A FRIEND of the *Horticulturist* remarks, that we have repeatedly given in our pages the view, that the domestic manufacture of wine is favorable to temperance, and requests us to insert the other side of the question, taken from a late paper. We do so without expressing our own judgment in the matter.

CRIME AND INTEMPERANCE IN WINE-PRODUCING COUNTRIES.

BY EDWARD C. DELAVAN.

The increase of crime in France is, proportionally, *six times* greater than the increase of population, as appears from well-authenticated returns.

From the year 1826 to 1843, the increase of population was only at the rate of seven per cent., while the increase of the various crimes was forty-five (45) per cent.

This record, fearfully large as it is, contains only those crimes which have been *proved* upon individuals; and if these be added to those which have *never* come to light, or which have not been *successfully investigated*, the percentage must be swelled to an almost incredible degree.

The statistics of France, in suicides, show an alarming increase in this kind of amusement so peculiar to that country.

From 1820 to 1830 (ten years) the number of suicides were 1,765; from 1841 to 1843 (three years), 2,573; in 1844 (*one year*), 2,900!

It has been frequently asserted, and, we believe, truly, that "*the use of wine is as common in France as the use of tea and coffee is here.*"

A distinguished banker and philanthropist of Paris (Mr. Lutteroth) furnished to the writer of this, while in that city, the government returns of the quantity of wine and distilled spirit drank within the walls, in a single year. Within the barriers there is an excise; without, none.

The returns give a consumption of about one hundred and thirty bottles of wine (nearly a quart each), and six of ardent spirits, to every inhabitant of the city. Outside the walls, wine is drunk without excise, and *there* can be seen drunkenness in all its horrors; and it was to these localities that Louis Philippe directed my attention, as furnishing a fearful illustration of the drunkenness of France.

If the inhabitants of Paris drink wine "*as we in this country drink tea and coffee,*" as has been affirmed, and doubtless truly, the statistics of Mr. Lutteroth the banker will not appear exaggerated, nor will it seem at all singular, that the great physician, Broussais, found most of the stomachs of adults, which he dissected after death, "*in a state of disease.*"

Louis Philippe, while the writer was in Paris, expressed to him his conviction that total abstinence was the only true temperance, and that the *drunkenness of France was on wine*. His son repeated the same fact, and added that it would be a blessing to France could all the grape-vines be destroyed, except so far as their products may be used for food.

The fearful increase of crime in France may reasonably be traced to the increased consumption of strong drink—if not adulterated, an exception to a general rule.

Dr. Baird, who travelled extensively in France, and was a close observer, states that "pure wine could only be found at the vineyards;" and that "adulteration was all but universal!"

How far the increase of crime is owing to the increased virulence given to the intoxicating liquors through the agency of other poisons, than the original poison, alcohol (always found in intoxicating wine), is a question which every one, after ascertaining the facts in the case, can settle for himself.

Inasmuch as pure wine can only be had at a certain high price—and as imitations as to sight, smell, and taste, are now so perfect, that few can distinguish the *pure* from the *impure*—and as the impure costs only from one-eighth to one-quarter the value of pure, all can judge how barren the chance is of any one getting a drop of pure wine.

R. M. Hartly, Esq., of New York, several years since, at much cost of time and labor, compiled from authentic documents the quantities of strong drink annually consumed by various nations, showing the following result: France, 1,053,797,854 gallons of all kinds, average to each person forty-two and a half gallons a year: equal to four and a half gallons of *naked alcohol* to each! The consumption of naked alcohol to each person in Sweden was found to be three and a quarter gallons; in Prussia, one and a sixteenth; in the United States, one and an eighth.

We have long believed France to be one of the most intemperate countries on the face of the earth, and the statistics prove it.

A great injury is done to the cause of temperance (unintentionally, doubtless) in this country, by American travellers who pass rapidly through the wine countries, visit the capitals of the various nations, frequent the splendid squares and streets, and then return home and report "no drunkenness in wine countries." They do not look for it—do not go where it is to be seen. The writer, while on a foreign tour some years ago, *did* look for it, and found it too, with all its attendant horrors; and he found its effects also, stamped with its dark blight everywhere as here: Crime, poverty, and disease, its sure companions. The Duke of Orleans, General-in-Chief of the Armies of France, told him the ration to each soldier was a bottle of wine a day—the use of that bottle only stimulated the appetite for more, and their small pay was usually squandered to purchase it; and that want of subor-

dination in the army could be traced to the wine; and most of the crime and poverty in the country, especially in the wine districts, *to the same cause.*

J. Fennimore Cooper says: "I came to Europe under the impression that there was more drunkenness among us than in any other country, England, perhaps, excepted. A residence of six months in Paris changed my views entirely. I have taken unbelievers with me into the streets, and have never failed to convince them of their mistake in the course of an hour. . . . On one occasion a party of four went out with this object; we passed *thirteen drunken men* within a walk of an hour—many of them were so far gone as to be totally unable to walk. I once saw three men wallowing in the gutter before my window, a degree of beastly degradation I never witnessed in any other country. . . . In passing between Paris and London, I have been more struck by drunkenness *in the streets of the former than in those of the latter.*"

Says Horatio Greenough, that eminent American sculptor, in a letter from Florence, Italy, so long ago as 1839, to the writer of this article: "Many of the more thinking and prudent Italians abstain from the use of wine; several of the *most eminent* of the medical men are notoriously opposed to its *use*, and declare it a *poison*. When I assure you that one-fifth, and sometimes one-fourth, of the earnings of the laborers are expended in wine, you may form some idea as to its probable influence on their thrift and health. . . . How far the distinctive and poisonous influence of wine, as here used, is to be ascribed to the grape, and how far it is augmented and aggravated by poisonous adulterations, it would be difficult to say; for although the pure juice of the grape can be furnished *at about one cent a bottle*, you, who have studied the matter, know very well, the retailers choose to gain a fraction of profit by the addition of water and drugs, that will maintain the color, body, bouquet, and intoxicating properties *it originally possessed.*"

Lord Acton (since Cardinal) while Supreme Judge of Rome, assured me, while I was in that city, that "all or nearly all the crime in Rome originated in the use of wine." He directed me to that part of Rome, which would well compare with the Five Points in New York. I visited that district, and there I saw men, women, and children, sitting in rows, swilling away at wine (*making up in quantity what was wanting in strength*), and such was the character of the inmates of those dens of debauchery, that my guide urged my immediate departure as I valued life. "And to-morrow," said Lord Acton to me, "I shall be obliged to condemn to death a man who went direct from one of these dens to his home, where, under the influence of wine, he butchered his mother and his wife. And this man, when not under this malign influence, was a kind-hearted son, husband, and father."

The evils of intemperance are now universally acknowledged to be so vast and overshadowing, that even our former opposers are seeking out a remedy—and that remedy, in the manufacture and importation of *pure* intoxicating drinks. It is now too late to waste a moment on this idea as a remedy. It is out of the question to decide which is or which is not *pure*—all the chemists in the world could not give a correct analysis in one year of the contents of a single wholesale liquor establishment that could be named. The only reason why even pure intoxicating liquor is drunk, is for the poison in it—the *poison, alcohol*—we do not want this poison, as a beverage, in any shape.

Ohio is striving for the bad eminence of becoming a wine-producing State. If she succeeds, it will be a curse to that State, and through her to the nation.

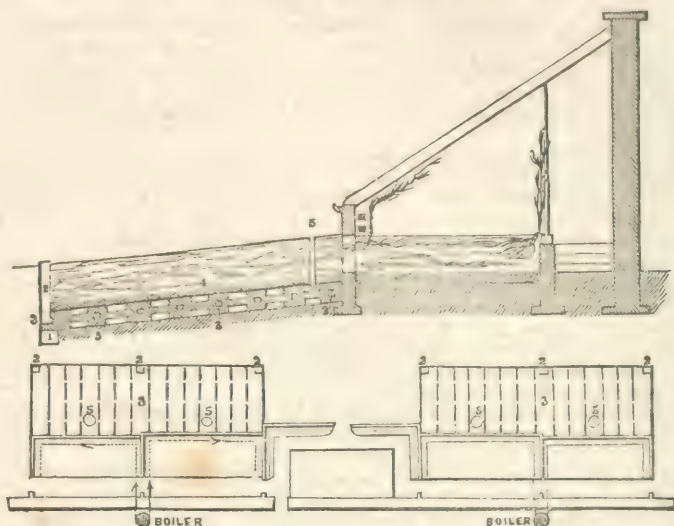
The only safety for us is in prohibition of the traffic of all kinds of intoxicating liquors, as a beverage, in all the States, and the non-importation of the same from abroad.

VINE BORDERS HEATED ARTIFICIALLY.

THE effect of artificially warming a vine border, has been seen in many instances; not the least instructive of which occurred to a Mr. Purday, an eminent and scientific British gunsmith. In his garden, at Bayswater, a vinery was filled with wood, and produced an abundance of excellent grapes, in little less than two years, by merely warming the border. The first year, the vines made wood thirty-seven feet long, strong, short-jointed, and well-ripened. But the plan was next carried out by A. L. Gower, Esq., in Wales, and is described in the journal of the Horticultural Society by his gardener, Mr. Hutchinson. "The bottom of the border," he says, "is gently sloped from the houses to the extreme edge, where is built a box drain extending the whole length of the border, as shown in the accompanying section,

marked 1; this drain is one foot square, the top of it being level with the bottom of the border, as also shown.

Ground Plan of Houses, showing Cross-Walls beneath the Vine Borders.—Section.—When this was completed, dwarf walls, marked 3, were built across the



border, three and a half feet apart, one foot square, in the pigeon-hole manner: on the top of these walls are laid rough flags; these, in reality, form the bottom of the border, and upon these is placed about six inches of broken stones and bricks, marked 4; then covered with turf, with the grassy side down, to prevent the soil from mixing with the stones. There are flues or chimneys at each end of the border and centre communicating with the drains in the bottom, as shown in the section, marked 2. The top of these flues is nicely made of stone ten inches square, through which is cut a hole of six inches square, into which is inserted a plug of a wedge-like form, so as to fit tightly, but removable at pleasure; these flues are about an inch above ground. At the back of the border are placed cast-iron pipes (marked 5) perpendicularly, and also communicating with the drains underneath; these being higher than the flues in front, cause a motion in the air beneath the border. After a long continuance of rain, the plugs in the flues in front are taken out, thereby creating a great circulation of air, and thus, to a vast extent, accelerating the proper drying of the borders, which is deemed of much importance. In the winter season, the borders are covered with leaves and stable manure, to the depth of twelve inches. It is obvious that the whole aim of the constructor of this border was to do that which experience shows to be so very important. He not only got rid of superfluous water, but he introduced air in abundance, and, at the same time, the natural warmth which it carries with it. The result was, Black Hamburgh Grapes, weighing from two pounds nine ounces to five pounds a bunch—beautiful fruit, of admirable quality, on vines just seven years old.

The experiments with *concreting vine border* were all made with the same end in view—the elevation of the temperature of the soil in which vine roots are formed; this is found to be of great importance.





CLEMATIS PATENS VAR. AMALIA* AND LOUISA.

Two varieties of the *Clematis patens* of Decaisne (*C. cærulea*, Lindley?), introduced, with others, from Japan by Dr. Von Siebold. Like other varieties of the same species, they are hardy, and are cultivated in the same manner. They will grow in almost any well-drained soil. The *Clematis* loves the full sun, but does not bear high winds. They grow best trained around columns, or when employed to cover an old tree. They do not readily produce seed, but are multiplied by cuttings or by layers. Other handsome varieties of this species, figured in European magazines, are *C. patens* Sophia, purple, with a shining green band down the middle of each segment of the flower, and *C. p. monstrosa*, in which a number of the stamens are transformed into petals, making a semidouble flower.

In an article on climbing plants, the *Cottage Gardener* (London) remarks: "After these come several new, or rather newish, *Clematises*, which, like *Cærulea*, are sufficiently hardy to stand our climate, but are seen to much better advantage in an orchard-house temperature, and protected by a glass veranda, or some very cool greenhouse. Of these, *Clematis lanuginosa* is, as far as we yet know, the best.

"My own opinion is, that *Clematis Sieboldi*, *C. patens* (which is the proper name of *Cærulea*), and the *grandiflora* variety of it, together with *C. lanuginosa*, *C. lanuginosa pallida*, *Sophia*, a continental seedling from *patens*, alias *Cærulea grandiflora*, *C. coriacea*, a showy kind from New Holland, and *C. barbellata* from the Himalayas, and some others of recent introduction, should all be grown on their own roots for pot culture; but when used for trellis-climbers out of pots, I am certain they would answer better if they were grafted on six-inch pieces of the roots of *Clematis montana*. Also, I think that, no matter how they "went off" in rapid growth, they ought to be cut back to near the grafted parts the first two seasons, if not the third, so as to get a thoroughly strong bottom, that would hold on for years and years, and still increase in beauty and strength.

"Another fine-looking *Clematis*—*indivisa lobrata*—was new to me; but, in an orchard-house, all these hardy house-climbers will assume their native character."

REPLY TO DR. WARD ON DWARF PEARS.

BY J. W. FIELD, NEW YORK.

SOME remarks which I ventured to make at the Pomological Convention at Rochester, and which received confirmation from Col. Wilder, L. E. Berckmans, and others, *not nurserymen*, have been uniformly misrepresented and misworded in the several reports.

They were substantially these: That being a lover of truth, and desirous of learning the truth, in order to obey the truth, Dr. Ward's articles on dwarf pears had incited in me the keenest curiosity to know if I had been pursuing a phantom. I had therefore visited his place, and procured the visits of other gentlemen, *not nurserymen* (which unfortunate class seem to have excited the doctor's suspicion of their exact truthfulness), if happily we might discover the cause of such a sad account of the failure of the pear on quince stock. The queries to be answered were: Was it local disadvantages? accidental causes? originally bad trees? poor cultivation? ignorance of the nature of the hybrid plant? a poor selection of the

* See Frontispiece.

kinds suited to the quince? were the pears budded on American quince stocks? Or, was the quince stock, as a base for pear cultivation, a failure? The united testimony of these unbiassed gentlemen, who had the pleasure of the doctor's courteous reception and attendance through his grounds, was against his theory and conclusions, and, as two of them have informed me, they found abundant testimony in favor of the quince stock in his own grounds, and that the doctor's treatment of his trees had violated all the laws governing the growth of pear on quince roots.

First. The trees were originally planted with the quince stock from two to four inches above the ground. *Second.* The conical, low-branched form had been neglected, and ordinary standard trees had been attempted, which would account for the doctor's complaint that they blew down, breaking off at the juncture of the pear and quince.

That, moreover, these gentlemen had ventured the observation (in reply to the doctor's objection to the quince stock) that his best Vicers were on the quince. "Oh," said the doctor, "that is an exception." "But your Duchesse are splendid on quince." "Another exception," replies the doctor. "But your Louise Bonne, your—etc." "Exceptions—all exceptions," was the reply; and so on through the list of nearly all the pears which experienced pomologists claim as superior on the quince. From this I deduced these two facts: that the doctor failed, where he had failed, from ignorance of the imperative laws governing the growth of pear on quince; and that his success, where he had success, was on the much abused quince stock.

These, Mr. Editor, are the sum and substance of my remarks, in which none of the discourteous terms reported were used.

Now, Mr. Editor, I looked upon Dr. Ward's published essays as just and fair subjects for criticism. If they are true, and experience will establish their soundness, I shall be the doctor's most earnest disciple, as I am seeking for truth, and desire nothing else. Now, will you indulge me in a very brief synopsis of the causes of success and failure of experiments of pear on quince stocks? I have three acres of light, sandy loam, upon which I have carted two feet, in depth, of soil from the adjacent streets of Brooklyn. The thirty inches of soil have been trenched and mixed with a fair dressing of compost, on one-half of the ground, the other half only fairly worked with the plough, and the same manuring for comparative experiments of growth and fruiting. On the first one and a half acres, I have (two, three, and four years planted) two thousand pear-trees, five feet each way for the two and three years planted trees, and (10 feet by 5) ten feet by five for the four years planted. I commenced planting the quince stock seven years since, but, from inexperience, met the same difficulties narrated by the doctor, discovered the cause, and rejected the whole stock of eight hundred and seventy trees, and commenced *de novo*. I was not a nurseryman, and rather think the fraternity would not own me now for one, though I have sold a few trees, to help pay the expenses of my hobby until it will pay for itself. And now, sir, with an abundant and most satisfactory success before me, with a growth, healthiness, and productiveness which surpasses my expectations, I feel able safely to pronounce on the necessities for success, and the causes of my failure.

First. My first trees were budded on American quince stocks, and, if the doctor obtained his trees prior to 1850, they were, almost beyond doubt, defective in that important respect.

Second. The pear was budded high on the quince, and, in great submission to the dogma, "Plant your trees no deeper than they grew in the nursery," they were set with the quince two to six inches above ground.

Third. Many kinds unfitted to succeed on the quince, and which experience has rejected, formed the great bulk of the number.

In regard to the first cause of failure, the doctor does not seem to recognize the necessity of caution, and, perhaps, was quite as unconscious of the defect as of the second.

The pear must be budded on a free, rapid-growing variety of quince stock. Such is the Angers Quince, which will expand in growth with the pear, instead of ceasing to grow beyond three or four inches in diameter. Shoots of this variety seven feet in height, and one and a quarter inches in diameter; the growth of two seasons can be seen in my grounds.

Second. The office of the quince is entirely as a root, never as a trunk or stem. Every portion of the bark of the quince will send out roots, with the slightest shade and moisture. It may therefore safely be buried several inches below its natural position, as it readily assimilates its character to its condition. When buried two to three inches below the surface, new roots fill the ground; the tree is steadied at the weakest point (the juncture of the two species), and ultimately after the habit of the tree is formed; and fruit has been enjoyed for several years; the rootlets formed by the portion of pear stock buried, sustain the tree beyond the possibility of fracture. Of (600) six hundred trees, three years planted, and this year removed, one-half had rooted from the small portion of pear stock buried; and (if permitted by the Editor) I may, in a future article, give a few simple instructions, to induce or prevent pears on the quince rooting from their own stock.

Of the third cause of failure, I shall have abundant acknowledgment of truth from the readers of the *Horticulturist*. No single cause of wholesale denunciation of the quince stock will compare with the injudicious working of all sorts of pears on the quince stock. We have but very few that succeed, and fewer that are superior upon it, and a proper selection of these for localities will insure success. These have been so recommended, that it would be superfluous to repeat them here. Among them, however, we may say, the peerless Duchesse holds her undisputed rank; and Dr. Ward, in justice to her, either ought not to have decried the quince stock, or he ought not to have grown the largest Duchesse upon it ever known; thirty-five ounces, and every ounce an argument against him. As to the doctor's challenge, beside coming rather late in the season, it certainly struck me as well as all with whom I have conversed who have read all his articles, that there was a gross inconsistency in writing down the pear on quince, and then challenging fruiterers to produce equally fine pears with his, grown on the abused quince.

The universal verdict seems to be, regarding the articles in the *Horticulturist*, that the doctor should have examined other grounds than his own, if, possibly, his cultivation, kinds, or trees, were not properly suited to the wants of the *double* plant, before he ventured to pronounce so imperatively against the experience of French cultivators for one hundred years, and English and American pomologists for twenty and thirty years. That his articles very blindly expressed his belief, containing within themselves self-refuting contradictions, and were altogether quite obscure, at times, whether he did not intend ultimately to pronounce in favor, instead of against the quince stock. That the doctor should either stop growing good pears (of all the kinds claimed for it) on the quince stock, or he should stop writing against it—all of which, I hope, he will take in good part, as I have a hearty respect, and some affection, for any man who loves a tree as well as I understand the doctor does.

MONSTROUS BROCCOLI.

MR. CHORLTON has given in the present number a lucid account of the mode of cultivating the Cauliflower; while we were engaged in reading his article, the following came to our table in an English periodical:—



"I beg to send you a head of Broccoli, which may possibly be worth attention. I have been an extensive grower of that vegetable for more than 20 years, and I have never seen anything like it before. To what cause is its anomalous condition to be attributed?"—J. CLARK. [Your Broccoli is very curious, from the fact of six perfect heads being grown on one and the same plant. The cause of this rather unusual formation is probably owing to some injury

which the growing point of the main stem may have received at a late period of the season; the effect of such an accident would be the production of several heads resembling the specimen you have been so good as to forward to us, and of which the accompanying sketch, although very much reduced, will convey a better idea than any lengthened description.—B.]

FRUIT CULTURE.

BY W. B. WALDO, JOHNSTOWN, DUTCHESS COUNTY, N. Y.

DEAR SIR: One year ago, a friend of mine presented me with one hundred dwarf pear-trees from the Rochester Nurseries, and, although their roots were unfeelingly lacerated by careless hands, they brought forth some fruit the first year. The donation innoculated me with the dwarf tree fever; each tree became an acquaintance and a particular object of my care. This year, they have been mostly barren, although they have made a fine growth of wood. As horticultural science has become a little deity that perches, in these modern days, on every bush

in everybody's garden, I coaxed up an acquaintance with his little excellency, and introduced him to each tree, and, after reading Mons. Cappe's mode of pruning and pinching, I went at it in season, and nipped, with great care, every little protruding twig except the leader. And now my astonishment has been very pleasantly awakened, by discovering very many of the twigs so pinched as aforesaid, crowned with a beautiful fruit bud, an event which I had no faith in, and the Lilliputians make bragging promises of giant burdens the ensuing year.

I wrote to Col. Wilder, of Boston, for advice in planting, and that gentleman, though a stranger, kindly gave me his advice, for which I shall be ever grateful, for a friend of mine, who has some three thousand trees, planted his own way, has lost numbers of them this year by the borer. I advise him to take them all up and replant, or I believe he will lose the whole.

1st Question. I have a quantity of young plum-trees large enough to bear thriftily in very heavy soil. Can I *graft* peaches successfully on them? I have grafted nectarines on plum with uniform success. Will the peach do as well?

2d. Salt, *science* says, is a good fertilizer for quince. Would you, therefore, recommend salt for dwarf pear-trees on quince roots?

3d. I have seen somewhere a remedy for rose-bugs in which I had faith, but have forgotten it, and cannot find it. Do you know what will keep them away? They were very destructive, last year, upon grapes.

4th. The apple-tree borer kills our trees, and bores our patience. I have about lost an orchard of sixteen years' standing. Is there any remedy? or must we bear the loss?

It is wonderful to me, when I reflect upon it, notwithstanding the much noise, of late, about horticulture, that there is so little attention paid to it. A garden is a little world of pleasures and delights, yet locked against thousands standing outside who know nothing of the pleasures inviting them within. As time flies on, earlier acquaintances scatter, old friendships are broken, the promises and hopes of youthful days drop and fade as years pile up their burdens and infirmities upon the waning strength of age, and, before we are aware, we stand in the midst of a bustling, fluttering world, solitary and alone. If we go upon the highway, it is filled with strangers; if we stay at home, our visitors belong mostly to another generation; if we visit the usual place of public worship, the whole countenance of the congregation scarcely resembles what we remember it to have been in time gone by. Now, if we have a garden of our own planting, we recognize an acquaintance in every tree, and vine, and shrub, and, with a little effort of the imagination, every plant becomes personified, and thus the plantation is an interesting family, smiling at our approach, and gratefully contributing their luscious fruits as if to reward us for our care. Every one, who can, should plant a garden, cultivate a taste for it, read the *Horticulturist*, and learn, amid trees, shrubbery, and flowers, to be a happier man.

[1. Peaches do better on plum stocks than on their own roots; they are more productive, and live longer.

2. Salt, in small quantities, is advantageous to the quince, or the pear on quince stocks, when they are growing in a light soil. When the soil is wet or heavy, salt is injurious.

3. Quite a variety of insects go under the name of rose-bugs, in different parts of the country. In the open air, we know of nothing better to destroy them than occasional syringings with water in which tobacco has been well soaked.

4. Gas tar will prevent the borer from entering the trees. Tar around the tree from the surface of the ground to an inch or so below; when applied much above the surface, it is said to be injurious. When the insect has already taken posses-

sion, wire may be run into their holes, to dislodge them, and many may be destroyed by digging away the soil from the collar of the tree in the fall, so that the frost may be better able to enter the holes. Some have had good success with the last plan.]

FROST GAGE PLUM.

BY WM. TOMPKINS, GERMANTOWN, NEW YORK.

THIS Plum was introduced here about ten years ago. It came highly recommended by the very best authority, and was planted quite extensively by the most of our orchardists, and high expectations were entertained of it. Its knotting propensity, however, soon became apparent; the knife was, during the growing season, brought in almost daily requisition, but, in spite of all the vigilance we were able to use, it was found impossible to keep it in a respectable condition. After several years' vainly combating the disease, the trees were mostly rooted out, and, with a few exceptions, their cultivation abandoned. We do not wish to censure those who first introduced this fruit, for it is well known to have once been, in certain parts of the State of New York, very productive and profitable, paying better than any plum then in cultivation.

But the question is often asked: Are there any orchards in a thriving and profitable condition in its original locality, or elsewhere? From what we have seen and heard, we very much doubt if there are. Cannot some one of your correspondents who has experience with it give us some information on this subject? I would willingly make a journey of a couple of hundred miles, to see a good-sized orchard of bearing trees in a healthy condition. If such an orchard cannot be found in some of the numerous localities in which it has been sent, then, in my humble opinion, this fruit ought not to be tolerated in any respectable nurseryman's catalogue or grounds.

True, there may be seen in the market immense quantities of plums that are sold for the Frost Gage, but, on a close examination, seven-eighths of them will be found to resemble it, but are inferior in *quality*.

It is with much pleasure I learn that the American Pomological Society has removed the Frost Gage Plum from the list for "general cultivation;" but I should have been more pleased had they put it on the "rejected list;" had it been put there some six years ago, a vast deal of time and money would have been saved by the fruit growers of this locality. It is a fact that cannot longer be concealed, that the Frost Gage, which hitherto stood unrivalled as a market plum on account of its productiveness and ready sale at a high price, has become so much subject to the "knots" as to make it a nuisance to every good gardener or orchardist. The inexperienced planter, in looking over catalogues of fruit-trees, is too often induced to select those varieties that are noted for their high price in the market, without being aware of the many drawbacks incident to their culture. Thus the Frost Gage is highly extolled, in some catalogues, as an "exceedingly productive and valuable market variety," and thousands of trees have been ordered and planted by "beginners" from which not a dollar ever has or will be realized; instead of being laden every fall with a crop of "delicious plums," the poor planter, to his no small mortification, finds nothing but "knots," and is thereby discouraged, and frequently makes no further efforts at raising the plum. Whereas, had he been "posted up" as to the plain and simple *truth*, he would not have ordered a single tree of the above-named plum, but some others that are known to be reliable and fruit growing; instead of being checked and injured on the start, would receive an impetus that would not only encourage "beginners," but induce others to engage in it also.



The Horticultural

REVIEW.

Report of the Commissioners of the Patent Office for 1855, issued 1856. Agriculture.

THIS report contains much speculation and matter for future examination. Of course it must partake of the "desultory," as remarked in the preface, but it is suggestive and valuable.

The *Sorghum saccharatum* and *Dioscorea batatas* receive high praise—perhaps not less than they deserve, though, with regard to the latter, sufficient time has not elapsed to test its value, and many who have unhesitatingly condemned it, have unfortunately purchased the wrong description of plant. Of the *Sorghum* there are strong hopes, and, just now, these hopes are the more cherished on account of the high prices of sugar and molasses. If any nation can work out these problems, it will be the Americans, one of whose honest mercantile captains assures us that, during his frequent trips to Canton, the *Dioscorea* was one of the first things laid in on arrival. "Why, then, did you not bring it home?" "Because I never thought to do so!" He, and others, probably never thought of its adaptability to our climate.

The accounts of this plant differ because trials have been made with the small axillary buds as sets, as well as another plant of similar appearance. The sets from the axils of the leaves are necessarily slow. They are very apt to fail. *Roots* of this yam, which had been made the subject of four different experiments at the Horticultural Society's Garden, London, were lately furnished for exhibition; three had been planted out, six inches apart, in March. No. 1. Planted the small axil tubers, about the size of marrow peas, six inches apart; of thirty roots taken up, the weight was 3 lbs. 3 ozs. No. 2. Planted small roots, from three to four inches long but very slender, six inches apart; of forty-eight roots taken up, the weight was 10 lbs. 12 ozs. No. 3. Larger sized roots, about five or six inches long, and stouter than No. 2, were planted six inches apart; of eleven roots taken up, the weight was 5 lbs. 12 ozs. No. 4. Cut roots, of different thicknesses, were planted three inches apart; of eighty roots taken up, the weight was 14 lbs. 4 ozs.;

these produced very nice roots, and more equal in size than any of the others. The three latter cases only were satisfactory, and the axillary buds not encouraging. Those who have cried humbug, and who consider this mode of condemnation very good fun, should "wait a little." The roots do not swell to an enormous size; on the contrary, they are long and slender, and hence can be planted near together, thus occupying but little ground. If not exactly a substitute for the potato, it is pronounced, both in England and France, by those who should know, a valuable acquisition, if only for feeding cattle and pigs. We are not prepared to recommend or to condemn it, but have thought it right, from the first, to give such knowledge as is passing respecting it.

The Chufa, or earth Almond, has naturalized itself to our climate, and has a value. A tree of the "Titmouse" (not Tittlebat's!), or "thin-shelled" Madeira-nut, variety *Juglans regia tenera*—the best of all the Walnuts—has proved valuable, and annually bears a fine crop in the garden of Peter Force, at Washington; loamy soil, rather dry than moist, suits this tree; in wet-bottomed land it will not thrive. The Almond (*Amygdalis communis*) is recommended for the Southern and Middle States. We have succeeded with it, near Philadelphia, in a moderate degree.

The advantages of this tree may be briefly summed up in the following words: It prospers upon indifferent soil; requires but little care in its cultivation; is beautiful as an ornamental tree; useful as a shade tree; and profitable in its production of a much desired fruit, yielding, in its bearing years, about twenty pounds to the tree, which, at fifteen cents a pound, would amount to at least \$500 to an acre. The amount of almonds annually imported into the United States is believed to be valued at more than \$250,000.

The *Soil of the South* says of the Chufas: "This is one of the novelties lately introduced that will prove a blessing to the country. Its expressed juice makes a delightful cooling drink, much used in the warm climates of Europe. In some countries, it is ground and distilled, and is said to make a valuable brandy. They are highly relished by children; but their chief utility in this country will be in the nutriment they afford to the hog, being imperishable in the ground, affording him an opportunity of just working enough for his living to keep him in good order. Their immense productiveness is another great recommendation. We have counted this season the product of one seed, which is twelve hundred and fifty perfect nuts, or something more than a quart. The top resembles the rush, and is said to be good forage for stock."

The Cork Oak (*Quercus suber*) is adapted to the climate and soil of many parts of the Middle and Southern States, and hopes are entertained that the importations of the seed will be attended with good results.

The "Prune d'Agen" and "Prune Saint Catharine," have been introduced from France, and grafted on the common plum-tree in all the States north of Maryland, with success. A quantity of the cuttings of "Raisin" and "Currant" Grape-vines have withstood the severity of our climate, as far as heard from. Liquorice is also being successfully cultivated.

The Opium Poppy (*Papaver somniferum*) is recommended to be experimented with; the annual importation of opium exceeds \$400,000. The Vanilla plant, Ginger, Iceland Moss, Orris-Root, medicinal Rhubarb, Castor Oil plant, the Assafetida plant, Cardamom, Water-Nut, or *Trapa*, and Lotus, are all suggested for trial.

Among "foreign plants," the report alludes favorably to the Guinea and Tussock Grasses, and, of "fibrous" productions, Manilla Hemp; the Cochineal plant, and Madder, are recommended for trial.

The Tea plant, new varieties of Cotton, and Sugar-Cane, the Boxwood-tree, the European Sweet Chestnut, several varieties of Oaks, as the Edible, the Kermes, the Gall-Nut, with the Date and Tamarind-trees, the Frankincense, or Olibanum-tree, the true Balsam of Gilead (*Amryis Gileadensis*), Gum Arabic, Mastic, Quassia, Senna, Rhatany, and Bunya-Bunya, or Araucaria Bidwillii, are all suggested as possible to introduce, every introduction rendering us more independent of other countries. Let all who have opportunities give some attention to these matters; it will be a pretty addition to the pursuits of the country gentleman, attended with the consciousness of doing something in his day and generation.

The book treats of insects, fertilizers, and a thousand things of interest to the farmer and gardener. The mechanical volumes we must leave to other pens.

Manual of the Botany of the Northern United States. Second Edition. By Asa Gray. New York: Putnam.

As horticulturists, we may be proud of the want which has called for a new edition of this well-known work. The author, we need scarcely remark, stands at the head of the science as an authority, and, in the getting-up of our catalogues and lists of plants and trees, we should be glad to see this work generally recognized as the standard of nomenclature. At present, we suffer much from a confusion of names. In a catalogue now before us, emanating from a house we should have supposed knew better, we find "*Zizyphus volubilis*, fifty cents," and, in another page of the *same*, "*Berchemia volubilis*, seventy-five cents"—both names having been given, by different botanists, to the same plant. A work like this under review, has become essential to every nurseryman who would keep pace with the high character his business is now attaining, not only for the detection and avoidance of errors like that alluded to in our friend's catalogue, but also to enable him to obtain the information of the plants and trees of his own country, every nurseryman of any pretension ought to possess.

Looking at the work horticulturally, we are disposed to join in with those botanists whom the author tells us "may find some reason to complain of the general omission of synonyms;" but, in reality, the work is not so very deficient in this respect. For instance, in describing *Magnolia umbrellata*, he tells us it is the same as *M. tripetala*, and *M. Frazeri* the same as *M. auriculata*. Changes similar to these are very common throughout the work, and it will take a great deal of "nerve" to make our catalogues correspond with them, as the rejected names are so widely diffused; but, as these names are generally acquiesced in by botanists as the more correct designations, it will be easier to correct the errors the loose descriptions that Pursh, Michaux, and Rafinesque, have bequeathed to us now, than at any future time.

In looking carefully through the volume, and comparing the list of the most beautiful of our native trees and plants with our nurserymen's catalogues, we are disposed to hold a higher opinion of our cultivators' tastes in the matter of "natives" than we think is generally assumed. Though there are certainly some very fine things yet to be brought under cultivation, there is not a greater number of neglected beauties in proportion to the extent of our flora, than could be found in similar comparison with a foreign catalogue and the flora of its proprietor's country. We are pleased to note this, especially as we know that the taste for our own beautiful trees is daily increasing.

With regard to the manner in which the author has completed his task, it scarcely becomes us to pass an opinion. To our mind, however, some of the kinds he has thrown together as being specifically identical, or mere varieties of

the same species, we should hold distinct; while others which he regards as distinct, we should imagine to be of the same species.

Betula populifolia, for instance, seems to us to be divided from *B. alba* by far more marked characters than divides *B. excelsa* from *B. lutea*. *Quercus oliviformis*, Dr. Gray considers to have been made out of an immature specimen of *Q. macrocarpa*. We have an opinion that *Q. bicolor* also has a strong leaning that way also. To a practical man, the leaves of the oaks afford but little opportunity of readily distinguishing the species. *Quercus tinctoria* and *Q. coccinea*, for instance, we have found to run into each other in every character, except that the flesh of the acorn is, in the Black Oak, orange, and, in the Scarlet, white. The leaves of the Black Oak do not, we believe, ever turn scarlet, but the other kind has not always got them so.

We have only to say that, though strictly a botanical work, we cannot do a better service to the gardening world than to recommend every lover of trees or plants to procure and study a copy. The price we paid for it was two dollars.

STRAWBERRIES.—The advertising sheet contains an important notice from Samuel Feast & Sons, of Baltimore, of their purchase from the executors of the late Dr. Edmondson, of his new strawberries, which are now for the first time offered to the public. They have obtained celebrity from the reports of the few who have seen and tasted them—the Marylandica, especially. The Camellias also will attract attention from our numerous readers.

GRAPERIES.—Our correspondent, William Saunders, advertises to construct graperies on terms which must command numerous customers. Four dollars and a half for each running foot is so reasonable, when combined with Mr. S.'s experience, that we ask the attention of our readers to his propositions.

(GRAPES). An answer respecting the best grapes for a grapery, will be given next month.

THE WINTER CONTEST.—The following lines will be understood and appreciated by many of our readers. It is almost needless to say they are by Cowper:—

“Grudge not, ye rich (since Luxury must have
Her dainties, and the World's more numerous half
Lives by contriving delicates for you)—
Grudge not the cost. Ye little know the cares,
The vigilance, the labor, and the skill,
That day and night are exercised, and hang
Upon the ticklish balance of suspense,
That ye may garnish your profuse regales
With summer fruits brought forth by wintry suns.
Ten thousand dangers lie in wait to thwart
The process. Heat, and cold, and wind, and steam,
Moisture and drought, mice, worms, and swarming flies,
Minute as dust, and numberless, oft work
Dire disappointment, that admits no cure,
And which no care can obviate. It were long,
Too long, to tell the expedients and the shifts
Which he that fights a season so severe
Devises, while he guards his tender trust;
And oft, at last, in vain.”

TWO LITERARY SALAD-BOWLS.

“Salad for the solitary”—Lettuce alone!

“Salad for the social”—Lettuce be merry!—*Punch*.

EDITORS TABLE.

The *Journal of the United States Agricultural Society* for 1856—edited by the Secretary, William S. King—and the *Transactions of the Pomological Convention*, held at Rochester, last fall, have been kindly sent to our "Table" by the Hon. M. P. Wilder, at the moment of going to press. The first is all that it ought to be; the tone of the whole is earnest, manly, and praiseworthy, and shall receive further notice. The *Pomological Transactions* are important, and we shall endeavor to impart to our readers everything of value that has not already been copied in these pages.

Both transactions may now be procured from the State Agricultural Societies, the Horticultural Societies, or, failing in these, by addressing Hon. M. P. Wilder (with stamps, we should hope), Boston, Massachusetts.

PHILADELPHIA, Dec. 12, 1856.

MY DEAR SIR: Can you announce in the February *Horticulturist* something like the following? The Native Fruit Committee consists of—SAMUEL WALKER, of Roxbury, Mass.; L. E. BERCKMANS, of Plainfield, N. J.; C. M. HOVEY, of Boston; P. BARRY, of Rochester; J. B. EATON, of Buffalo; A. H. ERNST, Cincinnati; and your humble servant. You will therefore perceive that some of the ablest pomologists in the United States are members of this Committee.

Very truly yours,

W. D. BRINCKLÉ.

J. JAY SMITH, Esq.

AMERICAN POMOLOGICAL SOCIETY.—We learn, officially, that, in March next, the Committee on Native Fruit of the American Pomological Society, at the request of the Hon. Marshall P. Wilder, President of the Society, contemplate issuing, probably quarterly, *Intermediate Native Fruit Reports* on such new native fruits as may be sent to any of the Committee for examination, or may in any way come under their notice. These reports will be published simultaneously in the leading horticultural journals. Each member of the Committee is requested to transmit, monthly, the memoranda he may make on this subject to Dr. Brincklé, of Philadelphia, Chairman of the Committee. (See March *Horticulturist*.)

PEARS.—Dr. J. M. Ward has exhibited to us some Vicar of Winkfield Pears that exceed, in size, any we have seen. Five of them weigh over six pounds, and they are as delicious as they are fine looking. They are a portion of those reserved for competition, awaiting, beyond the specified time, the acceptance of a challenge for the production of a better lot, which nobody entered the arena to claim. Notwithstanding assertions that Dr. Ward's trees were neither properly planted nor properly cultivated, he does produce the veritable article.

What is the reason that, with sales for many past years of millions of dwarf-trees, pears are still so scarce and high-priced, is answered by one of our valued correspondents thus, but it is scarcely satisfactory:—

"He who has ten or twelve pear-trees in his garden, is commonly situated as follows: Two or three cooking pears; five or six worthless varieties; and the balance, varieties that do not thrive upon the quince (although budded upon it), or grafted upon pear stock, which

throws out limbs, limbs, limbs, and roots (if not suckers), till the other poor trees are over-shadowed; all that, badly planted, badly pruned—*or* pruned at all—near hard walks or fences, surrounded with grass, weeds, raspberries, currants, flowers, &c. But, suppose no great mischief is brought upon the trees by children, animals, or the shadow of some tall elm, or other forest-tree, what then? More than one-half of the fruit is picked wilfully or playfully by children, servants, &c. &c.; and if, by great care, the busy man, never at home, succeeds in *ripening* some, is there one of these that can decently go out of the family? Wives, daughters, and inmates, would rather see their preserves and vegetables given away than a Duchesse or Flemish Beauty.

"If you must have pears, raise them yourselves, in gardens out of the reach of *boys*, and other nuisances."

It is true enough that we much depend on our own trees, for a good pear commands fifty cents in the show window; but what puzzles the outsiders, and to which we have no satisfactory answer, is where are all the promised abundance—the barrels that were growing? We admit progress, and rejoice in it, but, that the idea of supplying the wants of our great cities has not yet been realized, we, in common with the public, regret. The past season has been a poor one, it is true, but one would suppose the various climates should have furnished more than have yet been seen. The purchase of a half-barrel of good pears, we have found it impossible to accomplish. Let us, however, live in hope.

ROSES.—The finest of climbing roses is the "Cloth of Gold." The finest of yellow roses is the Cloth of Gold. The finest of noisettes is still the Cloth of Gold. And yet how few know it except as a dwarf, grown in a pot or a border, and bearing there a scanty supply of its noble blossoms. Nevertheless, it yields to none in the power of flowering, producing, if properly managed, enormous quantities of golden balls.

So says Dr. Lindley. His correspondents agree in adding, that, to bloom it in perfection, it should never be pruned; and we add, that the plant must have some age to insure a profuse bloom.

GRAPE-VINE BORDERS.—MR. EDITOR: Though house grapes have been successfully grown without the expensive preparation mostly resorted to, they do repay a liberal outlay, both in the construction of the house and materials for the border. When rich borders so often fail in producing, for any length of time, fine grapes, the cause must be looked for in the position of the border, or want of sufficient porous materials in it to keep it open. Gardeners have difficulties enough in obtaining the means of doing these things as they could wish, and need not a false economy to make things worse.

A YOUNG AND ENTHUSIASTIC GARDENER.

GRAFTING GERANIUMS.—A writer in the *Cottage Gardener* says on this subject: "Mr. Peed, gardener to T. Tredwell, had a collection of real curiosity and great interest—one of grafted geraniums, thus: 1. *Miss Emily Field*, a blush-white flower. 2. *Kingsbury Pet*, an excellent house plant. 3. *Reidil*, apparently a cross from *Baron Hugel*, alias *Courcy's Princess Royal*, a fine pot plant, grafted three feet high, the two before it not quite so high. 4. *Boule de Neige*, grafted fifteen inches above the pot, and four feet high. 5. *Commander-in-Chief*, five feet high, and grafted four feet from the pot. 6. *Le Titian*, four feet high. 7. *Brilliant* ditto. And 8. *Attraction*, three feet six inches high. A gentleman, of great skill and ingenuity, wrote to me six weeks ago, saying that geraniums would graft as freely as apple-trees, and by the same kinds of grafting; but Mr. Peed grafted all these on the continental plan of cutting off the top of the stock, and splitting the top of it in halves about an inch and a half, or not more than two inches, and wedging the end of the grafts to slip down into

the slit. The union in all of them was perfect. That, in my eyes, was the best triumph at this show."

THE GUAVA FRUITED AT CLEVELAND.—We find the following in the *Ohio Farmer*:—

"*The Guava (Psidium Cattleianum).*"—EDITOR OHIO FARMER.—SIR: I herewith send you a fruit of the Guava (*Psidium*). It was produced by a tree, in my greenhouse, treated with the ordinary care of the tenants of that establishment. As an eatable fruit, it is palatable, somewhat resembling our paw-paws, flavored with the strawberry. For ornament, it is equal to the orange and lemon, and, for both these purposes, it is worthy of attention by the amateur horticulturist. It is the fruit from which the Guava Jelly is manufactured. My tree, about three feet in height, has matured, this autumn, thirteen specimens of the size and perfection of the one before you. In the *Transactions* of the Horticultural Society of London, vol. iv. page 316, is contained a beautiful colored plate of the *Psidium Cattleianum*, the name under which I procured mine; but as the fruit of the one is of a deep livid purple, and the other a rich lemon yellow, the latter must be either a different species or variety. The former is said to be the only species which will ripen its fruit in a greenhouse; hence I infer that my specimen is a mere variety. Truly yours, J. P. KIRTLAND."

Cleveland, Ohio, Nov. 13, 1856.

We are pleased to hear of this; the fruit is valuable, and may be cultivated successfully at the South; in East Florida, the *Psidium buxifolium* is found near the River St. Johns, but it differs from all other species. The twig is round, covered with a gray bark, and, at near distances, marked with the cicatrices of opposite fallen leaves. The berry is blackish-purple, pear shaped, about the size of a cherry; internally, it is filled with horizontal rows of flat, subveniform, pale, bony seeds, with a narrow embryo curved into the form of a horse-shoe. This species is nearly allied to the purple-fruited Guava, *P. Cattleianum* (not *Cattleianum*, as the *Farmer* has it), scarcely differing in anything but the smallness of the leaves and the pyriform fruit, though the leaves of the purple Guava, besides being much larger, are also pubescent when young.

Most of the species of this genus are cultivated in the tropics for their fruit. The *P. pyrifera*, or Common Guava, bears a fruit about the size of a hen's egg, yellowish, with a peculiar odor; the pulp is rather firm, flesh-colored, agreeable, and aromatic. In the West Indies, it is highly esteemed by all classes, being eaten raw, as Dr. Kirtland indicates, as a dessert, or formed into an excellent sweetmeat and jelly.

Of the fruit of the Purple Guava, to which ours is so closely related, Lindley remarks: "The excellent flavor of its fruit, which is very like strawberries and cream, is far superior to either *P. pyrifera*, *pomifera*, or *polycarpa*." Mr. Sabine remarks of the fruit of this species, that "it is juicy, of consistence much like that of a strawberry, to which it bears some resemblance in flavor."

Whether the Florida species may become valuable when cultivated, is uncertain, but, in a genus so generally interesting for their fruit, says Nuttall, the "experiment is worth making."

The Guava will now be sought as a useful ornament, like the *Eugenia ugni*, for its beauty and its fruit.

We possess, too, in Florida, a *Eugenia*, the *dichotoma* or *fragrans*, an elegant and fragrant species not yet introduced. This genus was named in honor of Prince Eugene of Savoy, who was an encourager of botany, and possessed a botanic garden.

THE ORIGIN of Cuba Bast is at length discovered. The substance known under this name has now become familiar to gardeners, in consequence of its general substitution for Russian matting in tying up plants; but nobody could make out what tree produced it. In vain was inquiry directed to quarters where information on such points might have been expected

to exist. Sir William Hooker, by diligent inquiries, has ascertained that it is produced by a West Indian tree, described, years ago, by Swartz under the name of *Hibiscus elatus*, and which seems to be nothing more than a variety of the common *Hibiscus tiliaceus*. A full account of the discovery is given in the new number of the *Journal of Botany*, from information collected from Mr. H. Christy, Mr. Scharfenberg, and Mr. Wilson, the Superintendent of the Botanic Garden, Jamaica. There is, therefore, some hope that this useful material may now be sold at a lower price than it bears at present.

FIREWOOD.—Firewood is becoming scarce in Wisconsin and Illinois. The enormous consumption of it by railroads is fast exterminating the forests of our country. Two years ago, the price of cord-wood atodus Bay, N. Y., was \$1 50 per cord; this year, Canadians from Toronto came over and purchased all that could be furnished for \$2 50 per cord.

It will soon be worth while for our cultivators to turn their attention to raising trees expressly for the supply of many of our towns with firewood. At present, wood is worth prices averaging \$5 per cord, in Philadelphia. An acre planted with cherry—excellent firewood, and a very rapid growing tree—would be worth, at a rough estimate, \$200 in ten years. As there are many tracts of land utterly useless for agricultural purposes, it is well to consider whether this sum per acre, without any labor, is not worth waiting for? P.

Gossip.—In a quaint old book by Gabriel Thomas, will be found the following description of Philadelphia when it was a mere village: "In the said city are several good schools for youth, for the attainment of arts and sciences—also reading and writing. Here is to be had, on any day of the week, cakes, tarts, and pies; we have also several cook-shops, both roasting and boiling, as in the city of London: happy blessings, for which we owe the highest gratitude to our plentiful Provider, the great Creator of heaven and earth." Let us describe this great city as it now is: In the said city are several small squares of ground called "public squares," for youth and gray squirrels—also for the entertainment of jumping the rope. Here is to be had, on every day in the week, except in winter, when they are shut up, air a little purer only than in the streets, and the sight of a deer, which goes you without charge. We have also belonging to the town a fine site for a park, both for land and water, not improved as in the city of London. Happy blessings, for which we are called upon for the highest gratitude to the great Councils who have taken us all in.—India-rubber, now so abundant, was thus noticed in the *Monthly Review*, in 1772: "Our readers, perhaps, who employ themselves in the art of drawing, will be pleased with a transcript of the following advertisement: 'I have seen,' says Dr. Priestley, 'a substance excellently adapted to wiping from paper the marks of a black lead pencil. It must, therefore, be of singular use to those who practise drawing. It is sold by Mr. Nairne, mathematical instrument maker, opposite the Royal Exchange. He sells a cubical piece, of about half an inch, for three shillings, and he says it will last for several years.'"—Chinese proverbs sometimes contain much pith, as for instance: "Let every man sweep the snow from before his own door, and not busy himself about the frost on his neighbors' tiles." Another: "The ripest fruit will not fall into your mouth." And again: "Dig a well before you are thirsty."—A monster pumpkin was raised, last season, in England—a "Citronille," measuring seven feet in circumference, and weighing 150 pounds; previously, one of the weight of 212 had astonished the gazers. As these valuable articles do not keep well after having been cut open, smaller kinds are greatly preferable. The French make great use of these, particularly the Yellow Poitron and the Brazilian Sugar Gourd. A larger weight of wholesome winter food, both for man and his cattle, can hardly be obtained from the same space of ground than from these articles; the tender extremities of the shoots form the best spinach known, though they are little employed in this way in America.—The Truffle is now said,

by a French writer, to be produced by the "truffle fly," which stings the root of the oak-trees, and produces the truffle in the same manner as the gall insect produces the gall-nut; and a Mr. Ravel, of Switzerland, asserts that he can supply the larvæ of the insect; adding that each species of truffle has its own kind of oak and its own truffle fly. We wish some of our insects would produce something as good. But Dr. Lindley poses the Frenchman by asserting that truffles are propagated by spawn in the same way as mushrooms.—The Pampas Grass continues to receive attention abroad, and we have a specimen coming on favorably. On stems nine feet high, it produces noble panicles of flowers; one, in England, had eighteen panicles, and, when it spreads, it will be a fine ornament for a lawn.—There are annually manufactured in the United States 2,160,000 shovels, or about six hundred dozen per day. They are made entirely in this country; about one-third the number in Massachusetts, the rest in Philadelphia, Pittsburg, and other cities. As the shovel is one of the civilizers of the world, the annual demand for that useful article shows how much the people of the United States are contributing, by their labor, towards improving the social condition of mankind.—A new number (the third) of Dr. Hooker's beautiful *Flora of Tasmania* has been issued. The plates consist wholly of composites; the letter-press extends into Ericaceæ.—*Pinus Austriaca* is found to be an excellent plant for moving; they may be transferred without much risk, nine or ten feet high.—The solution of gum shellac in alcohol, which gardeners employ for covering cuts and wounds in trees, has been used with success, in Westminster Abbey, as a cement to the loose crumbling parts of old monuments, so that the ancient form and appearance are permanently preserved. If melted white wax is carefully run upon marble for the open air, it will preserve it for an indefinite period, the wax being highly indestructible.—Though the name of Sir Janisetjee Jejeebhoy sounds very outlandish, it belongs to a princely minded Parsee in India, who has just given the sum of \$50,000 to establish a school of design in Bombay. One of our Philadelphia merchants rejoices in a correspondent thence who has the name of Pah-Butty-Bassy-Baboo, and a very rich Baboo he is.—Two most important points are now attracting the attention of practical people—steam culture, and drying of grain in bulk as soon as gathered; both promise immense advantages, amounting to a "revolution."—A great deposit of copper has been opened, by an earthquake, in New Zealand. A region of about 4,600 square miles was raised in some places one foot, and, in others, much more. A chain of ancient rocks was upheaved vertically, and now forms a cliff nine feet high, which can be followed for ninety miles, exhibiting the veins of copper.—A new process for extracting sugar from all kinds of vegetables, has been published by the Academy of Sciences at Paris; it is the discovery of M. Maurice, that sugar exposed to the action of cold water undergoes a change known to chemists, which prevents its crystallization. A beet-root, dug up and stowed away, is a cone of cold water, and the longer it lies the more is the sugar diminished, keeping it under shelter making no difference; and the same with sugar-cane. The remedy is to crush out the juice at once, discharge it into large cisterns, and throw in a quantity of lime whereby a saccharate of lime is formed which will keep a whole year, and an immense increase of sugar over the old processes is the result.—At Wilton Park, the place mentioned by Emerson, in his *English Traits*, so handsomely, there are some remarkable Cedars of Lebanon—one, the bole of which measures twenty-three and one-half feet in circumference, with a fine head in proportion; there are also several others nearly equally large. Those who have been accustomed to see the South American Orchids grown in a high temperature, would be surprised to see the luxuriance of these plants here; they stand in vineries in which are a quantity of grapes: consequently, they are exposed to currents of air both day and night.—Alfred Delvan has written some curious articles on the trees of Paris. He states that the climate of that city has been unfavorably modified since the destruction of the woods and forests. But his most novel speculation asserts that man

requires poetry and health to contrast with his physical and mental destitution; he lives better in the open air than in badly ventilated houses; he lives longer in the country than in towns; terrestrial magnetism acts more directly and more profitably on the peasant than on the citizen, because the latter walks on stone pavement, which is an isolator, whereas the peasant walks with bare feet on the *humus* (the earth), his mother and his nurse. He forgets, perhaps, that the modern Parisian walks almost as much on asphalté as on *strasse* pavements. —The *Anemone pulsatilla*, and, indeed, all other species, are extremely acrid in all their parts. It causes, when applied externally, or introduced into the stomach, all the effects of acrid and corrosive substances, as violent inflammation, and a stupor, acting on the nervous system. —A correspondent describes the park at Hampton Court humorously thus: "The 'park' at Hampton Court was first laid out, like the garden, in the Dutch style, and there are still long avenues with double-planted rows of trees on each side, radiating off from the front of the palace like a pair of tongs with more legs than a pair, with level green sward between them. A few scores of highland 'storks,' *alias* Scotch bullocks, and some hundreds of fallow deer, graze here at ease and comfort, and shade and shelter themselves in the avenues." He says strawberries are forced there in such abundance, that they are gathered by the bushel for routes and public breakfasts. —All forcing, it will be found, is up-hill work before the days have begun to lengthen. —It is not at all uncommon, in old places, to find magnificent trees so situated, that, instead of being objects of beauty and interest, they are just the reverse—objects of regret. We once saw a splendid Cedar of Lebanon, the trunk of which measured upwards of four feet in diameter, growing so close to the front door of the edifice as to lash the windows with its branches. This, though exceedingly annoying, no doubt still remains a mark of censure upon the hand that planted it. Had this tree been judiciously placed some thirty yards from the building, instead of being offensively troublesome, it would have been highly interesting, and the admiration of every one. —Attention is largely attracted to a new disinfecting powder, invented by a Mr. McDougall, the composition of which is yet a secret. Farm-yard manure, in the worst stage of noisomeness, was turned over in presence of a great many observers, and the odor disappeared almost instantaneously on the application of a slight sprinkling of the powder. —It is not generally known that the cajuput oil of India is obtained from trees very similar to the common *Melaleucas*, and that even from the leaves of the *Eucalypti* an oil can be obtained of equal utility. The sandarac gum, exuding from the *Callitris*, or pine-tree of Victoria, is now collected in the greatest abundance. An Australian manna is being introduced into commerce, but is of inferior quality to the *Ornus* manna. —All the gutta percha-trees of Singapore have been destroyed, to procure the gum of commerce, and explorers are in search of new localities; there is said to be five sorts of the gum, produced by different trees. —The death of the late Professor Edward Forbes, of Edinburgh, is considered, by his fellow-laborers in science, as a national calamity. By the time he was seven years of age, he had formed a small, though tolerably well-arranged museum of his own, and, from that early age, he was indefatigable in the pursuit of natural history. —It is a most dangerous experiment to write about things without a practical acquaintance with them. When Oliver Goldsmith, genius as he was, tried his hand at a *History of Animated Nature*—and a very delightful book he made of it—he knew so little of the chief subject of his chapters (that of quadrupeds), that he described the cow as casting her horns annually. There is no information which passes more speedily and thoroughly away from the memory than that of natural history, if it be learned from books only. —Genial Dr. Darlington, who, to extraordinary botanical acquirements, adds the *bondomnie* of an agreeable man, in his *Floca Cestrica*, or *Botany of Chester County, Penn.*, allows the student the benefit of his extensive reading, and enlivens the details of the science by an occasional quaint remark or quotation. We cannot do better than to close our "Gossip" to-day with the

following, taken from that reliable and able book. The doctor has described the Staghorn Sumac (*Rhus typhina*) all in botanical correctness, when he breaks out with the following observation: "The fine purple clusters of fruit, on the fertile plant, render it quite an ornamental little tree; and, when planted in the yards and public squares of our cities, it affords an almost literal exemplification of the much admired *Rhus* in urbe!" Of the Naked-Stem Aralia, he says: "The root is sometimes used as a substitute for the sarsaparilla of the shops. I believe both the original and the substitute to be rather *innocent* medicines—provided the disease be not serious!" The author is evidently an admirer of Shakspeare; we wish, by the way, some one would collect all the observations of the poet on trees and flowers. The doctor has made a good beginning, and were it not that he is a banker himself, the observations he has appended to Romeo's remark would have less force. He is speaking of the common plantain and the "obs." is thus put: "A naturalized foreigner—remarkable for accompanying civilized man: growing along his footpaths, and flourishing around his settlements. The leaves are a convenient and popular dressing for blisters and other sores—a fact which seems to have been known in the time of Shakspeare, as we learn from his *Romeo and Juliet*, Act. 1, Scene 2: '*Romeo*. Your plantain leaf is excellent for that. *Ben*. For what, I pray thee? *Romeo*. For your *broken shin*.'" "The plantain leaf," now goes on the doctor, "continued in vogue, for that purpose, from the Elizabethan age down to our own times, when a *substitute* was furnished by the officious empirics who undertook to reform and regulate our national *currency*!" Who would expect a dissertation on *shin plasters* in a severely scientific book? And who is there that is not pleased with the transition from the grave to the gay?

TREES AS ARCHES.—In addition to our illustrations of landscape in connection with tree planting, there is a very simple mode of making a rapid natural arch in garden or shrubbery walks, which will be appropriate in almost any scene. The trees must be adapted by the character of their branching limbs, and once established at proper points, the limbs are pruned as represented.



Treated in this way, they form umbrageous bowers, and may serve the double purpose of arches over walks and shady retreats; for, having lost their leading branches, they will grow freely into a compact head. Limes, *tilia*, are suitable for such treatment as well as beech, and even the willows; but elms, maples, and most free-growing trees, will serve the purpose, and become permanent ornaments. Individual taste in the selection and trimming of these arches, may make a great variety; some might be ornamented with *Wistarias*, and other blooming vines.



LIPPINCOTT'S PRONOUNCING GAZETTEER OF THE WORLD.—A correspondent from Illinois, last month, said: "Maps are far behind the age so far as they have a reference to the West, where towns spring up even while the binder is putting the gilt trimmings upon his *splendid*

large atlas." We remarked that map publishers are continually making efforts to remedy this. If *they* do not catch up always with the incessant *tramp* of progressing civilization, we must call in the aid of the *Gazetteer*; if our friend will turn to Lippincott's great work, by Thomas and Babbwin, we think he will say that not only have the proper men been placed in their proper positions as publisher and editors, but that they have jointly, by the aid of capital, and enterprise, and information, enthusiasm, and perseverance, produced a work that may challenge the world for its compeer. It is a most portly volume, of 2,182 closely packed pages, every one filled with valuable matter, so valuable as to be an indispensable work of reference to all who care to possess accurate knowledge, whether student or merchant; so many improvements have been introduced in this great book, such numerous sources of knowledge have been ransacked to procure the materials, and such indomitable labor has been bestowed upon the contents, that, collectively, it exhibits a mass of human intelligence that it is difficult to appreciate, much less to digest. In geography, it is what Louden's *Encyclopædia of Plants* is in botany, or his *Arboretum Britannicum*; it is, in short, the greatest contribution to geography we have ever had. Though a town may have sprung up while it was in progress, the information regarding neighboring towns, counties, and States, is so full that no one can venture on making that an objection; but it is here that our editors are so correct; you may take up a post-office book, and find an account of every town in existence, with accurate descriptions of even the number of its blacksmith shops. We commend this work no less to our correspondent than to all the readers of this periodical.

TAXODIUM SEMPERVIRENS.—Our European readers, and those of our Middle and Southern States, may have noticed, in our advertising pages, last month, an opportunity to provide themselves with seeds of this fine Californian tree. North of Philadelphia, we are doubtful of its hardiness. It is time its character, in this respect, was more generally known. What has been the experience of our friends?

WASHINGTONIA GIGANTEA.—We are assured by letters from California, that a new locality for these gigantic trees has been discovered, and thus the fears of the public lest the few known would be destroyed, and the most extraordinary tree would be lost, at least to the view, for centuries, are needless.

Dr. Torrey examined critically the circles and rings in a complete radius of a Washingtonia exhibited in this country, and found they were 1,120 in number. The facts showed that the tree lacked about three centuries of being half as old as it was said to be. Its size is rather owing to its continued rapid growth.

A PLAN OF THE NEW YORK PARK, prepared by our correspondent, A. G. Baumann, Landscape-Gardener, of that city, has been forwarded for our inspection. This park is a parallelopipedon of hundreds of acres, mostly without river scenery, but Mr. Baumann has made much of it, and interspersed his trees and ornaments in a judicious manner. We trust his plan will receive the attention it merits.

THE SCHUYLKILL PARK.—Efforts are making here to redeem our character by creating a park on the Schuylkill River, by purchasing the property adjoining Lemon Hill, and uniting the two—in fact, the space of about one hundred and ten acres between the two waterworks belonging to Philadelphia. The intention is to purchase the new property, improve the two in unison, and to present the whole in a finished state to the citizens; a noble enterprise, indeed, and one which may be executed for four months interest on the New York investment. Our park will present a most attractive undulating surface of 110 acres, and be bordered on one entire side by the most picturesque of rivers. Shall we fail?

ANSWERS TO CORRESPONDENTS.—(B. W.) Your plant is *Dictamnus*, an ancient name of what is now supposed to be the *Origanum dictamnus*; *Fraxinella*, in allusion to the similarity between the leaves of the plant, and *Fraxinus*, the ash. The whole plant, especially when gently rubbed, emits an odor like that of lemon-peel, but, when bruised, it has something of a balsamic scent. The fine scent is strongest in the pedicles of the flowers, which are covered with glands of a rusty-red color, exuding a viscid juice or resin which exhales in vapor, and, in a dark place, may be seen to take fire. The root furnishes an opiate and drastic.

MR. EDITOR: Not the least valuable part of your periodical is that devoted to answering the questions of correspondents. Those answers are often useful to others than those who make the inquiries. Encouraged by your success in assisting other inquirers, and acting on the principle that editors are presumed to know everything, I will propound a few questions on subjects on which I desire to be enlightened.

I have in my yard a place which would be a good position for a large and showy tree; but it was formerly the cellar of a house, now filled up with the stone, and sand, and lime-mortar, which were thrown into it when the house was pulled down, and covered over with about a foot deep of earth. Now, what tree would thrive there? I would prefer an ever-green. Would the Deodar Cedar do? (1.)

Should larches be trimmed up, or should they be allowed to branch from the ground? (2.)

At what distances should Norway spruces and hemlocks be planted apart? (3.)

A SUBSCRIBER.

(1.) The larch would do better in such a situation than any other tree. It would suit the Deodar Cedar very well, provided you are in a region where it is hardy. For a grape-vine, it would be excellent.

(2.) If you grow the larches for the sake of their timber, judicious pruning will be of service to them. If required for ornament, we would not "trim" them; but that is a matter of taste too often spoiled by observing the city trimmers.

(3.) With what view? If for a hedge, two feet and a half apart is quite near enough; nearer, they starve each other.

(W. B. M.) The seeds sent you from the city of Mexico, under the name of the "Hand Plant," is known to botanists as *Cheirostemon platanoides*, and grows there to a large shade tree. Its English name is derived from the shape of the flower buds, which, in their resemblance to the human hand, are remarkable. If you do succeed in raising the seed, you will find no greenhouse large enough to hold it, and we can afford you no encouragement in the hope that "it may prove hardy here."

J. JAY SMITH, Esq.—DEAR SIR: A Washington letter-writer in the *Traveller*, comparing the Chinese sugar-cane with that grown in our Southern States, and referring to the mode of propagating the latter (by cuttings), says: "In the case of all plants propagated by cuttings, there is a constant deterioration; so that, in many parts of the South, the growth of cane is not over two-thirds what it was some years ago, and that on an equally fertile soil." Is this principle correct? If so, what is to become of our quinces, and some other trees propagated mainly by cuttings?

R. J. B.

The principle is not correct. Some years ago, it was *supposed* so by some physiologists, because some kinds of plants were showing signs of decay that had mostly been propagated that way. We might with as much reason say, "all the American buttonwood that we have seen diseased were seedlings; therefore there is a deterioration in all plants raised from seeds." Is the deterioration noticed in western districts once famous for their wheat crops, to be attributed to its being always a seed crop? We sometimes jump at conclusions when it would be safer to travel slower.

SAINT CATHARINES, C. W., Dec. 15, 1856.

SIR: A great number of fruit-trees have been destroyed in our part of the country, during the past year, by mice. I have planted an orchard, this fall, of peach and apple-trees, and find the mice commencing their depredations. Can you inform me of a remedy? And also, if what I have done is likely to prove one, viz: smearing the stem, with tar from gas-works, from the ground to about one foot up? Is the gas tar an injury to trees?

Yours, obediently,

JAMES TAYLOR.

There is a singular difference of opinion amongst practical men as to whether gas tar does or does not injure trees applied in the way you suggest. We have applied it to prevent the attacks of the peach and apple borers, smearing the stems below, and two inches above the ground, achieving our object, and without the slightest perceptible injury to the tree. Yet we know cultivators whose opinions and statements we place full reliance in, who say that their experiments with it *have* injured their trees. It is an excellent means of preserving trees from mice, and, to be on the safe side, tie coarse paper or leather round the stem, and tar *that*. Scatter, besides, as our friend—Alan Corson—recommends, a few prunings under the trees. They will eat these when the desperation of hunger might otherwise, perhaps, encourage them to brave the tar.

(BREVITAS.) We are afraid we hardly comprehend your question. A "list of the principal vegetables, with the soil and manure suited to each," would go far to exhaust a complete treatise on kitchen gardening. If we understand you want correctly, we could not do better than recommend you to procure Buist's *Kitchen Garden Directory*. You will probably succeed very well with your melons—provided you do not get them too weak by keeping them too long in your hotbed, or too far from the glass.

CATALOGUES, &c., RECEIVED.—A *Statement of Facts*, showing the Advantages and Profits of Thorough Drainage. Albany, New York, January, 1857. A most important topic, ably illustrated, and distributed *gratis*, by the Albany, New York Tile Works.

Register of Rural Affairs, and Cultivator Almanac for 1857. A most valuable publication, and illustrated; full of information to the farmer and gardener.

Twenty-Eighth Annual Report of the Natural History Society of Montreal. Montreal, 1856. A useful and enthusiastic Society, the proofs of whose ardent labors in the cause of science are here chronicled.

Fair-Mount Park Contributions. A pamphlet giving the leading views of the gentlemen associated for the purpose of giving a noble park to Philadelphia, which we have noticed elsewhere.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Evergreens, Green-house Plants, &c. &c., cultivated and for sale at Fruitland Nurseries, Augusta, Georgia. By D. Redmond. An excellent collection, and the catalogue well considered.

Catalogue Général des Végétaux Disponibles dans les Pépinières de E. Defossé-Thuillier, Orleans, France. A French priced catalogue, of merit, with the articles reasonably low.

An Address before the Chester County Agricultural Society, at West Chester, Pa. By John B. Biddle, M. D. Too short by one-half.

Catalogue of Tree and Shrub Seeds, for sale by J. R. Ray, No. 90 John Street, Sacramento, California. This is a large list, indeed, and though we notice but few of the indigenous trees and shrubs of California, we trust Mr. Ray will find it to his interest to collect them, and thus answer the many calls he would have from Eastern nurserymen.

Etablissement Horticole de Pradel Père et Fils Aîné. A. Montauban, France. Rosiers, Geraniums, &c.

The Catalogues of the Rose Hill Nursery, Woodstock, Vermont, includes fruit and flowers,

and especially, among the latter, roses. Mr. Luther Briggs, proprietor. Mr. B., in a private letter, thinks his climate, with the thermometer occasionally as low as 25° below zero, an uncomfortable, if not an unfortunate one, and asks for information of what will grow in such a region. In the last December number he will find valuable hints, in a letter from Canada, as to fruit; for flowers and shrubs, we shall endeavor to furnish further matter for his consideration; here we also have much to contend with, but, by careful experience, we are becoming acquainted with what suits our also very cold latitude; it often happens, however, that what we had once considered "perfectly hardy," is "lost to our hopes," though "to memory dear."

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, and Bedding-out Plants, cultivated and for sale by W., T., and E. Smith, at the Geneva Nursery, Geneva, N. Y. A very valuable collection, made with judgment and taste, and an interesting catalogue.

CINCINNATI.

EDITOR HORTICULTURIST: Your Western readers have been much gratified by the descriptions given in your valuable journal of the splendid country-seats on the Hudson, and in the vicinity of some of your Eastern cities. They would be still better pleased if you could find leisure to make them a visit, in company with some of your friends, during the ensuing spring, and see what they are doing out here for the cause of *horticulture* and *landscape-gardening*. They can promise you nothing to compete with their Eastern brethren in these beautiful adornments of the earth, but they can assure you of a hearty welcome, and will be happy to show you their first efforts in embellishing their grounds, and in the cultivation of fruits and shrubbery—all of which are as yet but in their infancy in the West.

But they have a climate and soil, and, in many parts, a surface admirably adapted to show such cultivation to the best advantage, and to display the skill of the landscape-gardener. Kentucky, with its many fine, park-like, grazing farms, is especially fitted for such improvements. The wealth and the will are there, and all that is wanted is a few tasteful examples, to make it one of the garden regions of the West.

In the vicinity of this city a good beginning has been made, and it will be pursued with much spirit and taste. The Horticultural Society and your journal have done much to bring this about, and a visit from you, with an interchange of opinions, would do more.

Respectfully, B.

[Inclination, and favorable remembrances of some of the fine scenes in Kentucky, would lead us to such an excursion, and possibly time may be found, in May next, to respond to this and other truly kind invitations for a view of the park-like scenery of the West. We know that Kentucky possesses a good climate and great natural advantages; that grass grows under its noble trees; and our *Parkomania* would be greatly excited by revisiting scenes now almost obscured in the light of memories not lost, but dimmed by time.]

THE VALONIA OAK.—J. JAY SMITH: In Leroy's sale catalogue, the "Valonia Oak" is given as the common name of the *Quercus Ægilops*, and in the *Hortus Kewensis* edition, 1813, the French name of that species is given from *Voyage d'Oliver* as *Chêne valain*, and the English name, "the great prickly cupped Oak, or Velanida-tree." The description of the species from the leaves and fruit is given in *Hortus Kewensis* from Willdenow, and may be used to determine whether the acorn from the Trojan plain is the fruit of the *Q. Ægilops*, which seems probable, especially as the species is native of the Levant.

Respectfully thy friend, ALAN W. CORSON.

I expect a tree of that species in the spring; very possibly to add to the many introduced that are too tender for our climate. I believe it is deciduous, and have more hope of its hardiness than of any evergreen oak.

A. W. C.

Calendar of Operations.

FEBRUARY.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—The terms "subsoiling" and "trenching" are frequently misunderstood as referring to the same operation. Subsoiling implies a mere stirring or loosening of the subsoil; whereas, trenching means a reversion of the surface and subsoil. By "surface soil," we mean the top six or ten inches, usually cultivated with the plough or spade. Trenching is the most permanently useful process, as, if the subsoil is poor, it is thus brought to a position where it can be improved. Keeping the good soil at top, in order to encourage the roots of plants near the surface, is only half cultivation. It would be difficult to assign a limit to the extension of roots in a well drained, aerated, and thoroughly cultivated soil. On the contrary, we know that vegetation on such soils continues in luxuriance during the dryest and most parching seasons. This fact cannot be too prominently kept in view. Draining is the foundation of all improvement in culture. Draining tiles are now easily procured, and if your ground does not *appear* wet, and you dislike the word "draining," call them *air tubes*, and consider your object to be underground ventilation. Trenching should be performed in the autumn, that the winter frosts may pulverize and disintegrate the newly turned up soil. It will seldom be found so pernicious as to be unproductive after such exposure, although subsoils abounding in oxides frequently require several winters to bring them into a congenial state; but such are exceptions.

FRUIT-TREES.—An evil that has been observed to follow early winter pruning, is the great evaporation from newly-cut surfaces. The effect will be noticed in the complete shrivelling of the terminal buds on pruned branches. Pruning is frequently deferred till spring, in order to avoid the effects just noticed. Evaporation, in such cases, may be prevented by covering the cut surface with a paint of gum shellac dissolved in alcohol. All fruit cultivators should be provided with this preparation, for the covering of cut surfaces, and accidents to the bark of trees.

PRUNING.—Never cut a branch until you can see a satisfactory reason for its removal. In thinning the branches of old neglected trees, endeavor to do it regularly, so as to preserve a well-balanced head. Young, stunted trees should be pruned well back, and all fruit buds picked out. On the other hand, those that have made strong growths should be sparingly pruned, and, if the upright centre shoots are vigorous, and the lower side branches weak, the latter should be pruned close, and the centre shoots reduced in vigor by pinching the young shoots during growth; pruning them severely now, will only increase their future vigor.

GRAPERY.—It is now acknowledged that the *making* of grape-vine borders has, in many instances, been overdone. Soil that will produce good cabbages, will produce good crops of grapes, provided it is thoroughly aerated, as recommended in former calendars.

GREENHOUSE.—Continue to shift into layer pots, young plants of fuchsias, calceolarias, &c., and repot generally all plants that require changing. A soil composed of rotted turfs will answer for all purposes; use it without sifting, and let it be rather dry than otherwise. Plants that have hard, matted balls of roots, should have the fresh soil pressed as hard as possible, otherwise the water will pass through it without benefiting the plant: many plants die for want of attention to this point. The pots should be clean, and two or three handfuls of broken pots or small charcoal put in the bottom for drainage. Plants that are put in large pots, as camellias and azaleas that have attained a desirable size, and are likely not to be disturbed for a time, are all the better for having two or three long strips of charcoal that will reach from the drainage to the surface of the soil in the pot, inserted while undergoing the potting operation. This will prevent solidity in the soil, and insure a free circulation of water and air to the roots. To prevent worms and insects from entering into the soil through the drainage, a small piece of perforated zinc may be placed in the pot before arranging the material for drainage.

FLOWER GARDEN AND PLEASURE GROUNDS.—Where the weather will permit, much may be done in preparing for planting, and the formation of lawns. Holes may be prepared for trees, and ground trenched for intended lawns. In making roads and walks, do not dig out deep ditches, and fill up with stone. From nine inches to a foot will be sufficient depth for carriage roads. Break the stones quite fine at the surface, and cover lightly with gravel. Procure gravel, if possible, of a tenacious, iron nature, that will consolidate chemically. No amount of mechanical pressure will form a solid road of gravel or sand, at least for carriage use; the materials must be of a binding nature.





Landscape in Connection with Tree Planting, No. 2.



NOTWITHSTANDING

Kent's mistakes, so many country-seats were capable of great improvement by merely clearing away redundant formality, the painter's ideas were not entirely neglected, and, accordingly, "improvement by abstraction," as it has been expressed, became the vogue. A sweeping sentence was soon pronounced against every right line and right angle. The Dutch and Italian designs quickly disappeared. The venerable avenues were uprooted; the airy terrace, with its verdant slopes, were levelled with the general surface of the ground; all the nicely clipped hedges and arcades, the pyramids and globes—all were banished from the lawn

and gardens; insulated clumps replaced the hedge-row trees.

The regularity of the old style was recklessly proscribed, to admit the irregularity of the new, and thousands of places were sacrificed. Even Sir Uvedale Price was infected with the mania, and ever after regretted his hasty operations; he admitted that to depart from the old style by introducing the irregularity of the new, was not all that was wanted to give to new scenery a truly natural character.

Correct grouping, it was soon found, was one of the first principles of landscape-gardening. Massive plantings, dissociated from groups of trees and bushes, would appear stiff, heavy, and unnatural, as well as totally devoid of interest to the painter. In associating groups with masses, the best and most natural effect, and that which gives the greatest expression, is generally attained by first placing the largest group or cluster in advance, and pretty near to a projection of the mass, and smaller ones about these. Thus the depth of bay in the mass is augmented, and the projection increased. A few small groups of low-growing trees, placed in the bays at intervals, make the depth more intricate, but care must be taken not to lessen the depth, nor to fill the bay too much. A mass of trees of even half an acre in extent, requires several smaller groups to proceed from it by degrees. A broken, loose appearance, producing effective light and shade, would thus be attained; the mass itself ought not to appear one dense body, but should have its monotony broken by parts being left unplanted.

We shall continue some brief remarks on this topic in a future number. At present, let us turn to our illustrations, and continue our examination of groups.

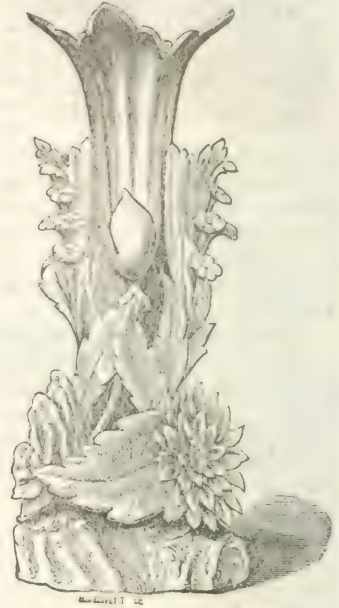
As in the case represented in Figs. 4 and 5, so is the wry group (Fig. 7) highly improved in Fig. 8. Again; the striking transition of character between a spruce or a larch and a round-headed tree (Fig. 10), is improved by making the spiral tree a central object (Fig. 11). An effective and balanced group may be made of seven or eight trees, or more, if two of them be placed only a foot or two apart; a third, three or four feet further off; and the rest at various distances—say from five to thirty feet—the taller ones appearing midway, similar to the two larches represented at Fig. 9; but if one or two tall trees appeared on one side, this balance would be no longer maintained.

A group of Scotch firs, or other pines, spruces, or evergreens, of any kind, having a larch, elm, birch, or some other deciduous tree, on one side, would be objectionable; but place these judiciously inside, and the effect will be good.

* See Frontispiece.

Where two trees only are planted together, they should invariably be of one kind, or so nearly allied to each other as not to appear very different, either in form or color. Nothing, in the association of trees, can be more defective or offensive to the sight than two of decidedly opposite characters. The ramified arms of the sycamore could never be made to blend happily with the delicate birch (Fig. 12), or the round-headed lime with the spruce fir (Fig. 10).

PARIAN WARE.



A BEAUTIFUL flower-stand in Parian ware, is one of the many forms into which this elegant material has been wrought. The stand has been exhibited in the windows in Chestnut Street, and our artist has faithfully copied it.

The annexed flower-vase is a specimen of Swiss carving in wood; the delicate imitative sculpture which it exhibits, is white, and reflects credit upon

the ingenuity of the artist. These sculptures are becoming quite the vogue, and it would not do for a work devoted to rural art, to neglect entirely such rustic productions.

INTERMEDIATE NATIVE FRUIT REPORT.

THE Committee of the American Pomological Society on Native Fruits, respectfully submit to the President of the American Pomological Society its first Intermediate Report. In presenting these Reports, the Committee is aware of the labor that will be encountered, and the responsibility that must necessarily be assumed. A correct estimate of the merits of a new fruit, examined for the first time, is no easy task. Due allowance must be made for the difficulty of ascertaining the precise period when a new fruit has arrived at its full maturity. But as the chances are greatly in favor of its not being examined exactly at the proper time, its excellence will be more likely to be underrated than the reverse. On this account, many varieties have, no doubt, been consigned to the tomb of the Capulets that richly deserved a more enduring existence. The Uwchlan Pear is an instance in point. On its first presentation, it was condemned as worthless by an able and intelligent fruit committee, that would most assuredly have regarded it as a variety of the greatest excellence had it been examined at the right moment.

CATAWISSA RASPBERRY.—This fine new ever-bearing Raspberry is a native of Catawissa, Columbia County, Pennsylvania, and has been brought into notice by Mr. Joshua Peirce, of Washington, D. C. A plant that had withstood, without protection, the unprecedented and intense cold of last winter, was examined on the 7th of September. At that time it was loaded with blossoms, ripe fruit, and unripe berries, in all the intermediate stages.

Size of Berry, rather large, some being three-fourths of an inch in diameter. *Form*, roundish-oblato, or, more correctly, hemispherical. *Skin*, of a deep crimson color, thickly covered with bloom. *Flavor*, fully equal to the so-called, but spurious, Antwerp Raspberry of the Philadelphia market. *Quality*, "very good." This variety is an ever-bearer, wonderfully productive, and worthy of cultivation.

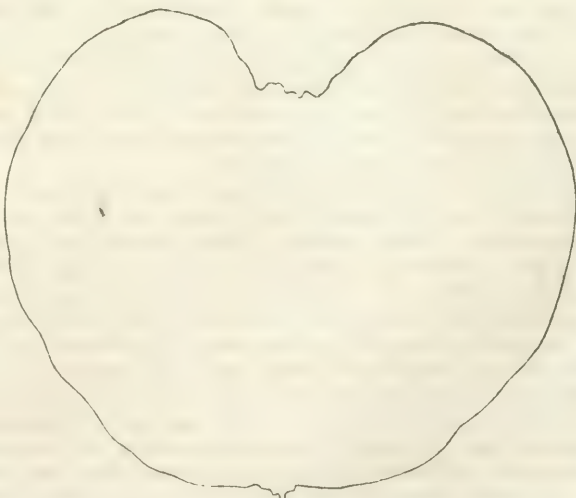
TITUS PEACH.—This fine new Peach originated with Mrs. Sarah Titus, No. 64 Ogden Street above Eleventh, Philadelphia. Specimens of the fruit were exhibited at the annual fair of the Pennsylvania Horticultural Society, in 1856.

Size, large, 2 and 9-16th inches in length by 2 and 3-16ths broad.

Form, roundish. *Skin*, fair yellow, with a red cheek. *Cavity*, open.

Stone, deeply cut, $1\frac{3}{4}$ inches long, $1\frac{1}{8}$ wide, $\frac{7}{8}$ thick—free. *Flesh*, yellow, red next the stone,

juicy, unadherent. *Flavor*, luscious. *Quality*, "best." *Maturity*, from the middle to the last of September. Eaten September 29, 1856.



Titus Peach.

REBECCA GRAPE.—This delicious new Grape is an accidental seedling, that sprung up in the garden of Mr. E. M. Peake, of Hudson, New York, and has been in bearing for the last five years. Specimens were shown, in 1856, at the annual exhibition of the Pennsylvania Horticultural Society—subsequently, at the recent biennial meeting of the American Pomological Society, and at the United States Agricultural Fair, in Philadelphia. It was described, and its history given, in the report of the Committee at the Rochester Meeting. Specimens received since that time, enable us to give a still more complete and accurate description.

Bunch, of fair size, about six inches in length, and very compact in form. *Berry*—*Size*, full medium, three-fourths of an inch long by five-eighths broad. *Form*, neither round nor oval, but obovate. *Skin*, thin, semi-diaphanous, greenish white, sometimes tinged with amber, and covered with a thin, white bloom. *Flesh*, very juicy, melting, and tender in texture without being pulpy. *Flavor*, rich, saccharine, and vinous, with a peculiar luscious aroma, distinct from that of any other grape. *Seed*, small, usually two, often three or four, and rarely five, in each berry. *Quality*, "best." *Maturity*, middle of September. *Leaf*, scarcely of medium size, about seven inches long, and seven in width, very deeply lobed, and coarsely and sharply serrated; upper surface, light green, and slightly rough; under surface, covered with a thin, whitish down; nerves, prominent; petiole, rather slender.

The sterling merit of this new and very superior native variety, will cause it to be rapidly diffused over the country.

WILMINGTON GRAPE.—This new native Grape was shown, by Mr. Edward Tatnall, of Delaware, at the United States Agricultural Fair, held in Philadelphia, in 1856; and, from the investigations of Dr. L. P. Bush, of Wilmington, Delaware, it is believed to have originated in that city.

Bunch, of good size, $4\frac{1}{2}$ inches long by $3\frac{1}{2}$ broad; not compact; sometimes shouldered. *Berry*—*Size*, eleven-sixteenths of an inch long by eleven-sixteenths in its transverse diameter. *Form*, round, slightly inclining to oval. *Skin*, yellowish green. *Flesh*, tender in texture, and not pulpy. *Flavor*, saccharine and pleasant. *Quality*, as a native Grape, "best." *Maturity*, last of September.

This variety is well worthy of cultivation.

CANADIAN CHIEF GRAPE.—A remarkably fine bunch of this Grape was received through the Editor of the *Horticulturist*. It is represented to be a hybridized seedling that originated at Hamilton, Canada West, and is said to be hardy and very productive, the vine having borne one hundred and thirty-four clusters from sixteen to twenty-four ounces each.

Bunch, very large, seven inches long by six broad; compact. *Berry*—*Size*, five-eighths of an inch by five-eighths. *Form*, round. *Skin*, green, with a faint amber tint. *Flesh*, tender. *Flavor*, pleasant, but subacid, probably from being pulled before being thoroughly ripe, as the seeds were evidently somewhat immature. *Maturity*—the specimen examined was received in November, though no information was given in reference to the time it was taken from the vine.

Any grape that will produce such large bunches in the open air, and especially in the cold climate of Canada, must be desirable. But is it a native variety? Some of the Committee who think it is not, regard it as the White Sweetwater. There is a difference, however, in the time of ripening of the two as well as in the size and character of the bunch, that of the Canadian Chief being large and compact, while the other is medium-sized, and open or loose in its structure.

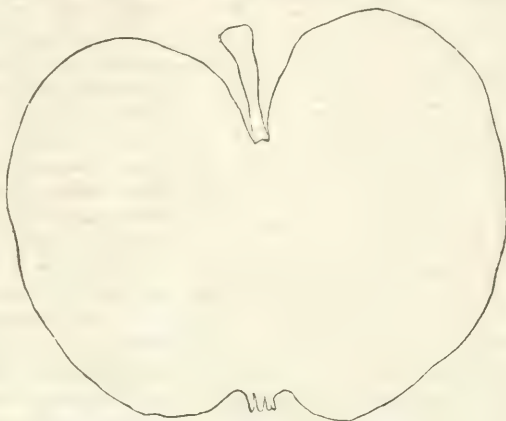
ARCHER GRAPE.—This is an accidental seedling, that sprung up, five or six years ago, in the garden of Mr. Ellis S. Archer, at the N. W. corner of Seventeenth and Arch Streets, Philadelphia.

Bunch, rather large, five inches long by four in width. *Berry*.—*Size*, full medium, eleven-sixteenths of an inch long by eleven-sixteenths broad. *Form*, round, inclining to oval. *Skin*, greenish-white, and, where exposed to the sun, of an amber tint, covered with a dense white bloom. *Flesh*, not pulpy, juicy. *Flavor*, sweet and pleasant. *Quality*, "very good." *Maturity*, eaten on the 5th of November.

The leaf of this variety presents strong indications of a foreign parentage; and though, from this circumstance and its late period of maturity, it may not succeed well at the north, yet it might prove valuable in a southern latitude.

MEISTER APPLE.—Specimens of this variety were received from Mr. Charles Kessler, of Reading, Berks County, Pennsylvania. It is believed to have originated in Berks County.

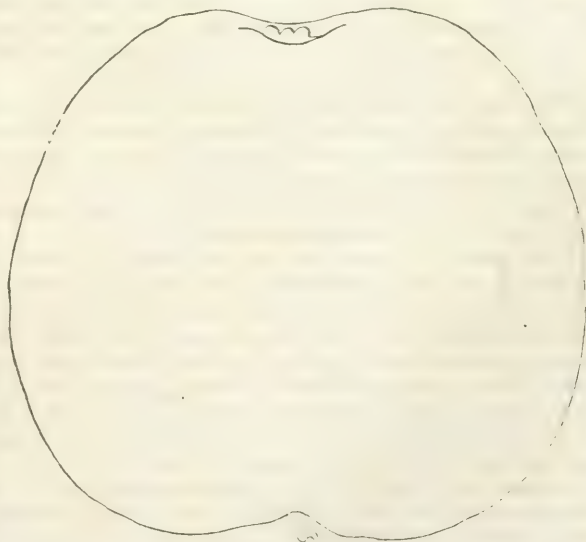
Size, below medium, $2\frac{1}{8}$ inches long by $2\frac{5}{8}$ broad. *Form*, roundish—conical. *Skin*, greenish-yellow, striped with red, with numerous white spots containing, sometimes, a russet point in the centre, and many russet dots and short concentric curvilinear lines in and around the basin. *Stem*, from three-eighths to one-half an inch long by one-eleventh thick, inserted in a wide, moderately deep cavity. *Calyx*, small, closed, set in a narrow, shallow basin. *Core*, medium. *Seed*, light brown, obovate, one-third of an inch long, three-sixteenths broad, one-eighth thick. *Flesh*, tender. *Flavor*, sprightly and pleasant. *Quality*, "very good." *Maturity*, eaten on the 3d of October.



Meister Apple.

CHRISTIANA APPLE, (R. 9, T. 10).—This beautiful apple originated near Wilmington, Delaware, on the premises of Mr. John R. Brincklé, and fruited in 1855, for the first time.

Size, medium, $2\frac{5}{8}$ inches in length by three in breadth. *Form*, roundish, inclining to conical. *Skin*, beautifully striped and mottled with carmine on a yellowish ground. *Stem*, one-half an inch long by one-eleventh thick, inserted in a deep, rather narrow cavity. *Calyx*, partially closed,



Christiana Apple.

set in a deep, moderately wide, plaited basin. *Core*, small. *Seed*, brownish-gray, many of them triangular, one-third of an inch long, three-sixteenths broad, one-ninth thick. *Flesh*, yellowish white, fine texture, juicy. *Flavor*, pleasant, delicate, sprightly, vinous. *Quality*, "very good." *Maturity*, probably November; the specimen examined was eaten on the 4th of December, when it was overripe.

RITTER PEAR.—Specimens were received from Mr. Louis Ritter, of Reading, Pennsylvania. The tree from which they were obtained was purchased in the

spring of 1851, for the Seckel, from an agent of Mr. John Perkins, of Moorestown, New Jersey; but, instead of having a rounded head, it is pyramidal in its growth.

Size, small, $1\frac{1}{2}$ inches long by $1\frac{1}{8}$ broad. *Form*, obovate. *Skin*, greenish-yellow—a good deal russeted, with, occasionally, a faint brown cheek. *Stem*, long, $1\frac{3}{8}$ inches in length by $\frac{1}{8}$ thick, inserted without depression. *Calyx*, rather large—set in a shallow, plaited basin. *Core*, medium. *Seed*, small, five-sixteenths of an inch long, three-sixteenths wide, one-eighth thick. *Flesh*, fine texture, melting, and buttery. *Flavor*, saccharine, with the full Seckel aroma. *Quality*, "best." *Maturity*, October 29.

This variety may prove to be the Seckel, although it appears to differ from it in the length of the stem, time of ripening, and in the shape of the tree. It is possible, however, that these several points of difference may be merely accidental departures from the normal condition of the Seckel, without being permanent characteristics. Should this not be the case, then the Ritter is worthy of cultivation, chiefly because it will prolong, in another variety, the delicious Seckel aroma.

DAVIS PEAR.—Specimens of this seedless native Pear were received from Mr. Samuel Davis, Haverford Township, Delaware County, Pennsylvania—six miles from Philadelphia, on the Westchester Road. They were produced by a grafted tree on his premises, the graft having been taken, about twenty years ago, by Mr. Davis's father, from a seedling on the farm of his neighbor, Mr. Adam Litzenberg, soon after which the original tree died.

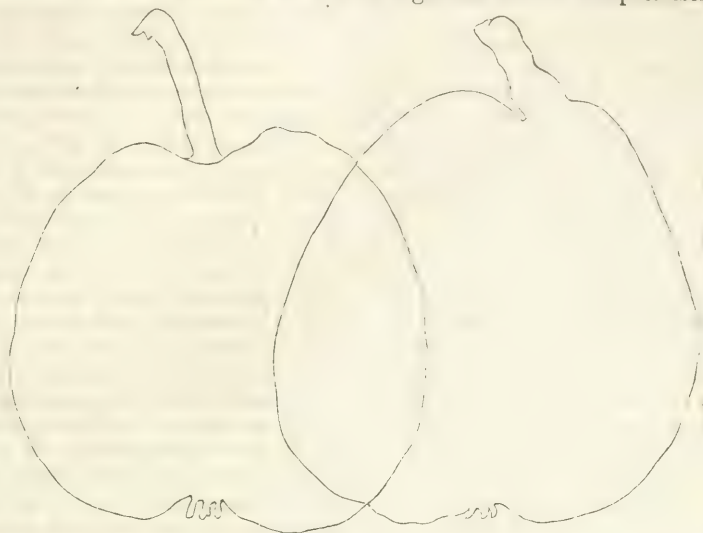
Size, small, $1\frac{3}{8}$ inches long by $1\frac{1}{8}$ in breadth. *Form*, rather variable, sometimes roundish, usually obtuse-pyriform, widest at the crown, and obscurely pentangular. *Skin*, much russeted, with occasionally marblings of greenish-yellow. *Stem*, three-eighths of an inch long by one-eighth thick, inserted in a very shallow cavity. *Calyx*, small, partially reflexed, set in a wide, somewhat irregular, superficial basin. *Core*, medium, solid, being entirely devoid of seed cavities. *Seed*, not abortive, but altogether absent. *Flesh*, buttery, gritty around the core. *Flavor*, slightly aromatic, and somewhat vinous. *Quality*, "good." *Maturity*, last of September and beginning of October.

This seedless variety, though much smaller than the *Poire sans Pepins*, is much superior to it in quality. Were it not for the grittiness near the core, the Davis would be rated "very good." And even with this objectionable feature, it commands a good price in the Philadelphia market.



Ritter Pear.

FRANKFORD PEAR.—Specimens of this new variety were received from Mr. Robert Cornelius, who procured them from a grafted tree on the premises of Mr.



Frankford, Oct. 29.

Frankford, Nov. 14.

Eli Merkins, a mile and a quarter from Frankford, Philadelphia. The seedling from which the grafts were obtained, Mr. Merkins found, four years ago, growing on the bank of Frankford Creek, near the bridge, and having on it three or four pears. The following year, he again saw it in fruit, and found the specimens of so good a quality, that he determined to remove the tree to his own premises. This he accomplished at the proper season, taking the precaution, at the same time, to insert several grafts from it into a large, white Doyenné that stood on his grounds. The original tree perished, but, fortunately, the grafts succeeded, and from them were produced the specimens examined by the Committee.

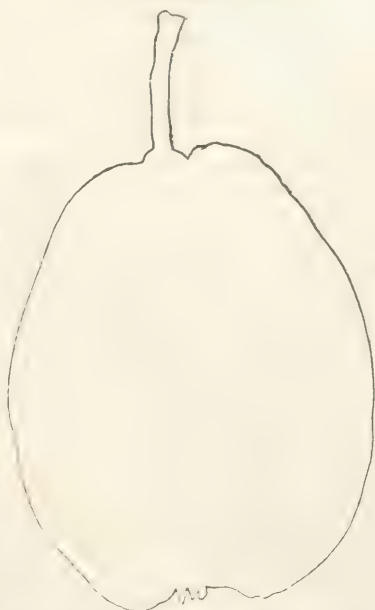
Size, medium, $2\frac{1}{4}$ inches long by 2 and 5-16ths broad. *Form*, roundish, sometimes inclining to pyriform, not unfrequently obovate. *Skin*, yellow, containing many russet dots, especially towards the crown, and having, occasionally, a faint blush on the part exposed to the sun. *Stem*, usually about thirteen-sixteenths of an inch long by one-sixth thick, sometimes short, thick, and fleshy, at its termination; inserted in a small cavity. *Calyx*, medium, open; set in a shallow, moderately wide basin. *Core*, medium. *Seed*, generally abortive; when perfect it is ovate, dark brown, an angle at the obtuse end, plump, three-eighths of an inch long, one-fifth wide, one-seventh thick. *Flesh*, fine texture, and buttery. *Flavor*, exceedingly rich, with a delicious aroma. *Quality*, "best." *Maturity*, November.

This new native Pear is a decided acquisition, and, as soon as its value becomes known to the pomological community, it will be extensively cultivated. One specimen was examined on the 29th of October, and was pronounced "very good." But, on the 14th of November, when it attained its full maturity, there was no hesitation in placing it among the "best." Its original locality, in Frankford, was in the immediate vicinity of the place of origin of the "Philadelphia" Pear.

WILMINGTON PEAR (1847, E. 1).—The Wilmington is a seedling of the Passe Colmar, raised from seed planted by the undersigned in 1847, and grafted on quince in 1850. This grafted tree fruited for the first time in 1855, and bore



Wilmington Pear.



Ontario Pear.

only a single specimen, which was eaten on the 2d of October. In 1856, it matured ten specimens; the first was eaten on the 9th of September—the last during the meeting of the American Pomological Society in Rochester. The original tree has not yet fruited.

Size, medium, from 2 and 11-16th inches by $2\frac{1}{2}$ to $2\frac{3}{8}$ by 2 and 5-16ths. *Form*, sometimes obtuse-pyriform, somewhat compressed at the sides, sometimes roundish-ovate; which of these two forms will ultimately be the normal one, can only be determined when the variety has fully established its characteristic peculiarities. *Skin*, cinnamon russet, with patches of greenish-yellow on the shaded side, and sometimes faint traces of carmine on the part exposed to the sun, with occasionally a number of black dots, encircled by a carmine margin. *Stem*, somewhat variable, from $1\frac{1}{2}$ inches by one-eighth to one and one-fourth by one-sixth, of a uniform, cinnamon color, curved; inserted obliquely in a small cavity, and, in some instances, without depression. *Calyx*, medium, with short, erect segments, set in a wide, rather deep, sometimes slightly furrowed basin. *Core*, medium. *Seed*, dark brown, acuminate, with an angle, at the obtuse end, three-eighths of an inch long, three-sixteenths wide, and one-eighth thick. *Flesh*, fine texture, melting, and buttery. *Flavor*, rich and saccharine, with the delicious aroma of the Passe Colmar. *Quality*, "best." *Maturity*, September. Eaten, October 2, 1855.

ONTARIO PEAR.—This new native Pear was concisely noticed in our Rochester Report. Since that time, other specimens have been examined, which enables the Committee to give a more full

description of the variety. The Ontario is a seedling of the Canandaigua. It originated at Geneva, Western New York, and, in its general appearance, bears a considerable resemblance to the Washington.

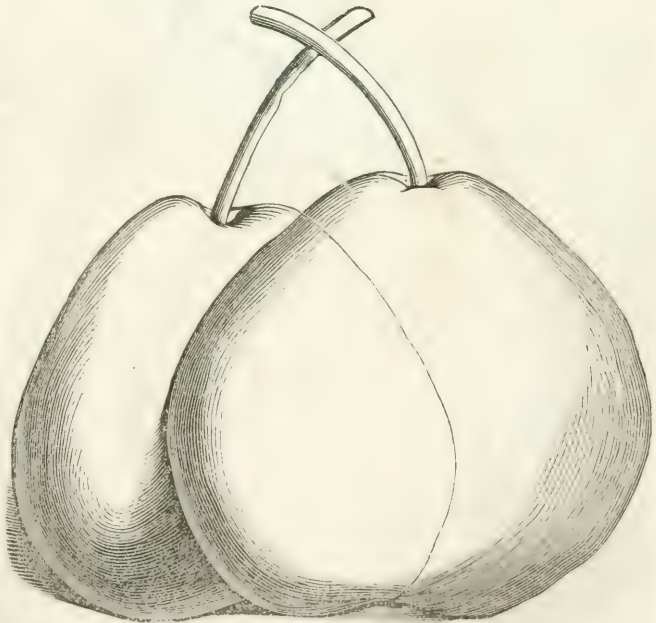
Size, $2\frac{5}{8}$ inches by 2 and 1-16th. *Form*, long, obovate, inclining to pyriform. *Skin*, greenish-yellow, with numerous pale green dots, which become russet on the shaded side, and sometimes carmine on the side exposed to the solar rays. *Stem*, three-fourths of an inch long by one-tenth thick, inserted, by a fleshy termination, in a slight depression. *Calyx*, medium, open, set in a wide, shallow, furrowed basin. *Core*, medium. *Seed*, light brown, long-obovate, three-eighths of an inch long, three-sixteenths wide, and one-eighth thick. *Flesh*, fine texture, buttery. *Flavor*, sugary and rich. *Quality*, "very good." *Maturity*, last of September.

HUNTINGTON PEAR.—Specimens of this and the two succeeding varieties, were exhibited at the late meeting of the Society at Rochester, by Mr. S. P. Carpenter, of New Rochelle, New York, and were noticed in the Report of the Native Fruit Committee, but not minutely described. Since the adjournment of the Society, other specimens, through the kindness of Mr. Carpenter, have been received, and examined, and a visit to the original trees has been made by a member of the Committee.

The Huntington was found growing in the woods, and, while small, was taken up by the late James Huntington, Esq., of New Rochelle, and planted in front of his residence. The tree is now twenty or thirty years old, and pyramidal in its growth. Having been planted in a shallow, stony piece of ground, it does not appear to thrive well, although it produces fruit of an excellent quality.

Size, rather under medium, 2 inches long by 2 and 5-16ths broad. *Form*, roundish-obovate, broad at the crown, tapering to the base, sometimes resembling

in appearance the Vesouziere. *Skin*, yellow, with a number of russet dots, and not unfrequently a red cheek. *Stem*, from five-eighths to one inch long by one-eighth thick, inserted in a moderately open cavity, which occasionally is quite wide and shallow. *Calyx*, rather large, set in a wide, not very deep basin. *Core*, medium. *Seed*, dark brown, obovate, five-sixteenths of an inch long, three-sixteenths broad, one-eighth thick. *Flesh*, fine texture, and buttery. *Flavor*, slightly vinous, with a peculiar, delicate aroma. *Quality*, "very good." *Maturity*, middle of September.



Huntington Pear.

Church Pear.

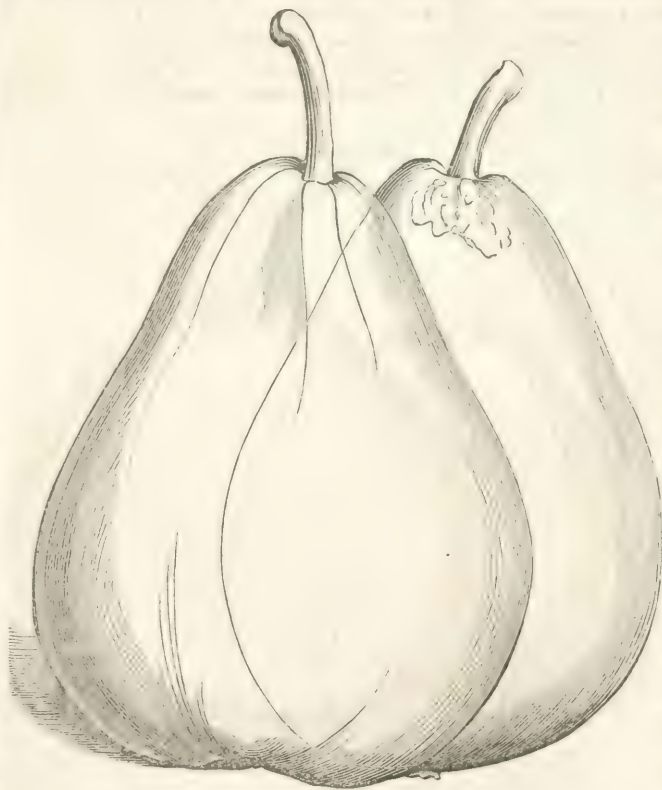
CHURCH PEAR.—The Church Pear is believed to be a seedling raised by an old Huguenot settler at New Rochelle. The original tree stands on the premises of L. P. Miller, Esq., and is presumed to be nearly a hundred years old. It bears, annually, from fourteen to twenty bushels of fruit, is uncommonly healthy and vigorous, having no decayed limb about it, and spreads its lordly head over three or four square rods. The trunk, two feet above the ground, is six or seven feet in circumference.

Size, medium, 2 and 3-16th inches in length by 2 and 5-16ths in breadth. *Form*, short-turbinate, largest in the middle, and tapering both ways. *Skin*, greenish-yellow, russeted at the base and crown, with occasionally russet markings on other portions of the exterior. *Stem*, long, from 1 to 1 $\frac{3}{4}$ inches by $\frac{1}{4}$ in thickness, of a cinnamon color, and inserted without depression. *Calyx*, closed, with short segments, set in a moderately wide, plaited basin. *Core*, medium. *Seed*, brown, ovate, with an angle at the obtuse end, one-third of an inch long, one-fifth broad, one-eighth thick. *Flesh*, of fine texture, and buttery. *Flavor*, mild, pleasant, and sufficiently saccharine. *Quality*, "very good." *Maturity*, commences ripening about the middle of July, and continues till the end of September.

Future observation will determine whether or not the Clark Pear, of Connecticut, the Bergamot of Dr. Bloodgood, of Flushing, the Sallaignac, of Germantown, and Carr's Autumn Bergamot, are synonymous with the Church of New Rochelle.

PARSONAGE PEAR.—The Parsonage is also believed to have originated at New Rochelle. It stands on the premises of the Rev. Dr. R. M. Morgan, and is a constant and abundant bearer, of from ten to twenty bushels annually.

Size, large, 3 $\frac{1}{2}$ inches in length by 2 $\frac{1}{2}$ in width. *Form*, pyriform, usually rounded at the base, sometimes long-turbinate. *Skin*, yellow, interspersed with numerous russet dots,



Parsonage Pear.

Selleck Pear.

a good deal russeted at the base, and russet markings at the crown. *Stem*, five-eighths to six-eighths of an inch long by one-sixth thick, inserted, with little or no depression, by sometimes a fleshy termination. *Calyx*, medium; segments, short and stiff, and set in a very shallow, slightly plaited basin. *Core*, small. *Seed*, dark brown, acuminate, three-eighths of an inch long, three-sixteenths wide, one-eighth thick. *Flesh*, somewhat granular in texture, and buttery. *Flavor*, vinous. *Quality*, "good"—at least, perhaps "very good." *Maturity*, last of September.

SELLECK PEAR.—A box containing fine specimens of this Pear was sent, by Mr. Albert Bresec, of Hubbardton, Vermont, to the recent meeting of the American Pomological Society at Rochester. Having, however, been accidentally misplaced, it was overlooked till after the adjournment of the Society. The specimens were accompanied by a letter from Mr. B., in which it was stated that the tree, supposed to be the original one, was planted, between the years 1818 and 1825, on the farm of Mr. Columbus Selleck, Seedbury, Vermont, where it now stands.

Size, large, sometimes very large, usually $3\frac{1}{2}$ inches long by 2 and 11-16ths in width. *Form*, obovate-pyriform, sometimes roundish-obovate, with a more or less distinct neck, and uneven surface. *Skin*, thick, yellow, with many large, russet dots, and rarely a red cheek. *Stem*, $1\frac{1}{2}$ inches long by $\frac{1}{2}$ thick, curved, inserted somewhat obliquely, by a fleshy termination, into a slight cavity, which is sometimes nearly obsolete. *Calyx*, small, segments erect, set in a shallow, contracted, plaited basin. *Core*, medium. *Seed*, black. *Flesh*, rather coarse in texture, buttery. *Flavor*, some resemblance to that of the Bartlett, but more saccharine. *Quality*, "very good." *Maturity*, end of September and beginning of October.

WATERMELONS.—The "Mountain Sweet" Watermelon has, for many years, been universally conceded to be the best market variety cultivated in the Middle States. Of late, however, it has lost some of the qualities that recommended it so highly to favor. This deterioration has probably been owing to the influence of pollen from inferior kinds grown in its vicinity. For the last three years, a member of the Committee has been procuring, from the South, and chiefly from the interior of South Carolina, seed of many new watermelons of high repute, and disseminating them. During the past season, fine specimens of some of these kinds were received, and the opportunity thus afforded of ascertaining their merits has not been neglected. At least four of them are unquestionably equal in quality to the Mountain Sweet when in its highest state of perfection; these are the Clarendon, Souter, Ravenscroft, and Bradford. Another, Odell's Large White, though not equal, in some respects, to the four preceding, will, on account of its size and productiveness, become a desirable and profitable variety for market purposes.

CLARENDON WATERMELON.—This fine Watermelon is also known under the name of the Dark Speckled. It originated in Clarendon County, South Carolina, and, when pure, may at all times be readily recognized by the peculiarly characteristic markings of the seed.

Size, large. *Form*, oblong. *Skin*, a mottled gray, with dark green, interrupted, longitudinal stripes, irregular in their outline, and composed of a succession of peninsulas and isthmuses. *Rind*, thin, not exceeding half an inch. *Seed*, yellow, with a black stripe extending around the edge, and from one to three black spots on each side, the form and number corresponding on the two sides. *Flesh*, scarlet to the centre. *Flavor*, sugary and exquisite. *Quality*, "best."

SOUTER WATERMELON.—This fine Watermelon originated in Sumpter District, South Carolina.

Size, large, sometimes weighing twenty or thirty pounds. *Form*, oblong, occa-

sionally roundish. *Skin*, peculiarly marked with finely reticulated gray islands, separated by pale green straits, and having irregular, dark green, longitudinal stripes, extending from the base to the apex. *Rind*, thin, about half an inch. *Seed*, pure cream white, with a faint russet stripe around the edge. *Flesh*, deep red to the centre. *Flavor*, sugary and delicious. *Quality*, "best." *Productiveness*, said to be unusually great.

RAVENSCROFT WATERMELON.—This valuable Watermelon originated with Col. A. G. Summer, of South Carolina.

Size, large. *Form*, oblong. *Skin*, dark green, faintly striped and marked with green of a lighter shade, and divided, longitudinally, by sutures, from an inch and a quarter to two inches apart. *Rind*, not more than half an inch in thickness. *Seed*, cream color, tipped with brown at the eye, and having a brown stripe around the edge. *Flesh*, fine red, commencing abruptly at the rind, and extending to the centre. *Flavor*, delicious and sugary. *Quality*, "best."

BRADFORD WATERMELON.—The Bradford is a highly prized South Carolina Watermelon.

Size, large. *Form*, oblong. *Skin*, dark green, with gray, longitudinal stripes mottled and reticulated with green. *Rind*, not exceeding half an inch in thickness. *Seed*, yellowish white, slightly mottled, and with a yellowish-brown stripe around the edge. *Flesh*, fine red to the centre. *Flavor*, fine and sugary. *Quality*, "best."

ODELL'S LARGE WHITE WATERMELON.—This immense Watermelon originated with a negro man on the property of Col. A. G. Summer, of South Carolina.

Size, very large, sometimes weighing sixty pounds. *Form*, round. *Skin*, gray, with fine green network spread over its uneven surface. *Rind*, nearly three-fourths of an inch in thickness. *Seed*, large, grayish black, and not numerous. *Flesh*, pale red. *Flavor*, fine. *Quality*, "very good." *Productiveness*, said to exceed that of most other kinds.

The large size and long-keeping quality, after being separated from the vine, will recommend this variety—especially for the market.

W. D. BRINCKLE, M. D., *Chairman*.

A SHORT ACCOUNT OF THE LIFE AND WRITINGS OF JOHN CLAUDIUS LOUDON.

BY HIS WIDOW.

(CONCLUDED FROM PAGE 64.)

In the year 1827, Mr. Loudon suggested the idea of planting some public walk according to the natural system, and naming the trees in the way that has lately been done in Kensington Gardens. The same year, the first notices were inserted of horticultural societies offering premiums for the production of certain vegetables, flowers, and fruits—a plan which has since been carried to a very great extent.

In the year 1828, the *Magazine of Natural History* was begun, being the first work of its kind; and this work, though not quite so successful as the *Gardener's Magazine*, was very popular, and has had numerous imitators. Towards the close of this year, Mr. Loudon paid another visit to the Continent, to obtain information for a new edition of the *Encyclopædia of Agriculture*. After traversing France, he proceeded through Strasburg to Munich and Stuttgard; he afterwards visited Heidelberg and Carlsruhe, and returned by Metz to Paris, and thence to England. In the *Gardener's Magazine* for 1828, he began to give an account of this tour, and he continued it through several of the succeeding volumes, inter-

spersing the descriptions of the various places he saw with a mass of valuable reflections on various subjects, which he conceived would be useful to gardeners. In the following year, 1829, he suggested the idea of having breathing zones, or unoccupied spaces half a mile broad, at different intervals around London; and, in the next article to this, he first suggested the idea of making use of the manure now carried to waste by the common sewers, a plan which has since engaged the attention of many talented persons. Another plan suggested by him about this period, was for establishing national schools, or, as he termed them, parochial institutions for education. In the same volume, is a suggestion for the establishment of a gardeners' fund for the relief of the widows and families of deceased gardeners.

About this time, Mr. Loudon formed his first acquaintance with me. My father died in 1824, and finding, on the winding up of his affairs, that it would be necessary for me to do something for my support, I had written a strange, wild novel, called "The Mummy," in which I had laid the scene in the twenty-second century, and attempted to predict the state of improvement to which this country might possibly arrive. Mr. Loudon chanced to see the review of this book in the *Literary Gazette*, and as, among other things, I had mentioned a steam-plough, it attracted his attention, and he procured the work from a circulating library. He read it, and was so much pleased with it, that he published, in the *Gardener's Magazine* for 1828, a notice of it under the head of "Hints for Improvements;" and he had from that time a great desire to become acquainted with the author, whom he supposed to be a man. In February, 1830, Mr. Loudon chanced to mention this wish to a lady, a friend of his, who happened to be acquainted with me, and who immediately invited him to a party, where she promised him he should have the wished-for introduction. It may be easily supposed that he was surprised to find the author of the book a woman; but I believe that, from that evening, he formed an attachment to me, and, in fact, we were married on the 14th of the following September.

Immediately after our marriage, Mr. Loudon began to rewrite the *Encyclopædia of Gardening*, which was published in the course of the year 1831. On the 1st of October, 1830, he published the first part of a work, in atlas folio, entitled "Illustrations of Landscape Gardening and Garden Architecture;" but, from the very expensive nature of the work, and the limited number of subscribers, he found it necessary to discontinue it, and it did not proceed beyond the third part, which appeared in 1833. In the beginning of the year 1831, he had an application to lay out a botanic garden at Birmingham, and he agreed to do it merely on the payment of his expenses. On this occasion I accompanied him, and after spending about six weeks in Birmingham (which, though it is my native town, I had not seen for several years), we made a tour through the North of England, visiting the lakes in Cumberland and Westmoreland. It was at Chester that we saw a copy of Mr. Paxton's *Horticultural Register*, the first rival to the *Gardener's Magazine*, which, at the time we were married, produced £750 a year, but which gradually decreased from the appearance of the *Horticultural Register* till the period of Mr. Loudon's death, immediately after which it was given up.

After visiting the beautiful scenery in Westmoreland and Cumberland, we passed through Carlisle, and entered Scotland by way of Longtown and Langholme. It happened that there was a fair at the latter place, and the town was so exceedingly full that they not only could not give us a bed, but we could not even find a place to sit down. When we entered Ayrshire, the county to which Mr. Loudon's family originally belonged, he was received with public dinners at Ayr and Kilmarnock. A public dinner was also preparing for him at Glasgow; but while we were staying

at Crosslee Cottage, near Paisley, the residence of Archibald Woodhouse, Esq., one of his most highly esteemed friends, he received a letter from Bayswater, informing him of the severe illness of his mother, and her earnest wish to see him. Mr. Loudon was warmly attached to his mother, and as, unfortunately, we did not receive the letter till late at night, for we had been dining in the neighborhood, we did not go to bed, but packed up everything so as to be able to set off with daylight the next morning for Glasgow, where we left Mr. Loudon's man with the horse and carriage, and proceeded to Edinburgh by coach, though we could only get outside places, and it rained; besides which, Mr. Loudon had never ridden on the outside of a coach since his knee had become stiff, and he could not ascend the ladder without the greatest difficulty. Nothing, however, could stop him in the performance of what he considered his duty, and, indeed, I believe his eagerness to see his mother overpowered every other feeling. It was also a singular circumstance, that, on his return to Edinburgh, after an absence of nearly thirty years, he should be obliged to pass through it almost without stopping; yet such was the case, as we found, on our arrival at the inn, that a packet was just about to sail for London, and that if we did not avail ourselves of it we should be compelled to wait several days. We, therefore, hurried down to the pier, and finding that the captain of the vessel was just going on board, we hired a boat, and were, luckily, in time to save our passage. We had a very quick voyage, and arrived at Bayswater about half an hour after the letter we had sent from Glasgow to announce that we were coming. Mr. Loudon's mother was so delighted to see her son, that she seemed partially to revive; so much, indeed, that we had hopes of her recovery. Nature, however, was too far exhausted, and she died about six weeks after our return, in October, 1831.

In 1832, Mr. Loudon commenced his *Encyclopædia of Cottage, Farm, and Villa Architecture*, which was the first work he ever published on his own account, and in which I was his sole amanuensis, though he had several draughtsmen. The labor that attended this work was immense; and for several months he and I used to sit up the greater part of every night, never having more than four hours' sleep, and drinking strong coffee to keep ourselves awake. The *First Additional Supplement* to the *Hortus Britannicus* was also prepared and published in 1832.

The great success of the *Cottage Architecture*, which is perhaps the best and most useful of all Mr. Loudon's works, tempted him to publish the *Arboretum Britannicum* also on his own account. He had long intended to write a work on the hardy trees of Great Britain; but he did not contemplate the expenses which he should incur by so doing. When, however, the *Arboretum* was once begun, he found it was impossible to compress it into the limits originally intended; and, in his determination to make the work as perfect as possible, he involved himself in the difficulties which hastened his death. Notwithstanding the immense labor attending the *Arboretum*, which was published in monthly numbers, Mr. Loudon, in March, 1834, began the *Architectural Magazine*, the first periodical devoted exclusively to architecture, though, like the *Magazine of Natural History* and the *Gardener's Magazine*, it only served as a pioneer to clear the way for others, which afterwards followed in the same course with much greater success.

From the year 1833 to midsummer, 1838, Mr. Loudon underwent the most extraordinary exertions both of mind and body. Having resolved that all the drawings of trees for the *Arboretum* should be made from nature, he had seven artists constantly employed, and he was frequently in the open air with them from his breakfast at seven in the morning till he came home to dinner at eight in the evening, having remained the whole of that time without taking the slightest refreshment, and generally without even sitting down. After dinner, he resumed

the literary part of the work, and continued writing, with me as his amanuensis, till two or three o'clock in the morning. His constitution was naturally very strong, but it was impossible for any human powers to bear, for any lengthened period, the fatigue he underwent. In 1838, he began the *Suburban Gardener*, which was also published in monthly numbers, so that he had five monthly works going on at the same time. He soon found, however, that three monthly works, besides the *Arboretum*, were as much as his health would permit him to undertake the management of, and he disposed of the *Magazine of Natural History* to Mr. Charlesworth. In 1838, he also gave up the *Architectural Magazine*, and at midsummer, in that year, he finished the *Arboretum Britannicum*. He was now in circumstances that would have discouraged almost any person but himself. His health was very seriously injured, partly by what was supposed to be a liver complaint, and partly by an enormous swelling in his right knee, which some of the most eminent medical men in London supposed to be produced by a disease in the bone. In addition to the large sums in ready money he had paid to the artists and other persons employed during the progress of the *Arboretum*, he found, at its conclusion, that he owed ten thousand pounds to the printer, the stationer, and the wood engraver, who had been employed on that work. His creditors, however, did not press him for their money, but gave him a chance of reaping the benefit of his labors at some future time, by consenting to wait till they were paid by the sale of the *Arboretum* and the *Cottage Architecture*, upon condition that he placed these works in the hands of Messrs. Longman, to hold for the creditors till the debt was paid.

Notwithstanding the state of his knee, which was now such that he was unable to walk without assistance, immediately on the completion of the *Arboretum* he arranged and published his *Hortus Lignosus Londinensis*; and in the last number of the *Suburban Gardener*, which was finished about this time, he informed the public that he intended to resume his profession of landscape-gardener, and that he would not only go out, but give advice at home, on any plans that might be sent to him. To us, who saw the state of his health, this intimation gave the greatest pain, and we determined to do everything in our power to prevent the necessity of his exerting himself. Two of his sisters learned wood engraving, and I, having acquired some knowledge of plants and gardens during the eight years I had acted as his amanuensis, began to write books on those subjects myself. In the mean time, he grew so much worse, that we had very little hope of his recovery, till he placed himself under the care of William Lawrence, Esq., when that eminent surgeon took a different view of the case from what had been before entertained, and, by his mode of treatment, rapidly restored my husband to health.

In 1839, Mr. Loudon began to lay out the *Arboretum* so nobly presented by the late Joseph Strutt, Esq., to the town of Derby. In the same year, he published his edition of *Repton*, and his *Second Additional Supplement to the Hortus Britannicus*. In 1840, he accepted the editorship of the *Gardener's Gazette*, which, however, he only retained about twelve months.

In 1840, Mr. Loudon, having a great desire to examine some of the trees in the *Jardin des Plantes*, in order to identify the species of *Cratægus*, went to Paris; and as his health was beginning again to decline, I went with him, taking with me our little daughter Agnes, who was then about seven years of age, and who, from this time, was always the companion of our journeys. We went by way of Brighton, Dieppe, and Rouen, to Paris, ascending the Seine, and we remained in France about two months.

When Mr. Loudon left Scotland so abruptly in 1831, he promised his friends

to return the following year, and indeed, fully intended to do so, but various circumstances occurred to prevent him, and it was not till 1841 that he was able to fulfil his engagement. In the summer of that year, however, soon after the publication of the *Supplement to the Encyclopædia of Plants*, Mr. Loudon, Agnes, and myself, went from London to Derby, and, after spending a few days with our kind and excellent friend, Mr. Strutt, we proceeded through Leeds to Manchester. It rained heavily when we arrived at Leeds, but, Mr. Loudon having determined to visit the Botanic Garden, we went there in a most awful thunder-storm, and the whole of the time we were in the garden the rain descended in torrents. We were all wet, and we had no time to change our clothes, as, on our return to the station, we found the last train to Manchester ready to start, and Mr. Loudon was most anxious to proceed thither without delay. When we arrived at Manchester, he was far from well, but, notwithstanding, the next morning, though it still rained heavily, he insisted upon going to the Botanic Garden. Here he increased his cold, and when we returned to the inn, he was obliged to go to bed. The next morning, however, he would go on to Liverpool, and, though he was so ill there that when we drove to the Botanic Garden he was unable to get out of the coach, and was obliged to send me to look at some plants he wished to have examined, he would sail for Scotland that night. He was very ill during the voyage, and when we landed at Greenock he was in a high fever. He persisted, however, in going by the railway to Paisley, and thence to Croslee Cottage, where we had promised to spend a few days with our kind friends, Mr. and Mrs. Woodhouse. When we arrived there, he was obliged instantly to go to bed. A doctor was sent for, who pronounced his disease to be a bilious fever, and for some time his life appeared in great danger.

It was six weeks before he could leave his bed; but as soon as he was able to sit up he became anxious to resume his labors, and taking leave of our kind friends, we set out on a tour through the South of Scotland, visiting every garden of consequence on our route, and making notes of all we saw. Notwithstanding all he had suffered during his severe illness, and the state of weakness to which he was reduced, he exerted himself to see everything; and he was never deterred, either by fatigue or wet weather, from visiting every garden that he heard contained anything interesting. After travelling about a fortnight we reached Edinburgh, but Mr. Loudon only stayed one night; and, leaving Agnes and me there, he proceeded on the 13th of August alone to Glasgow, on his road to Stranraer, where he was going to lay out the grounds at Castle Kennedy, for the Earl of Stair.

On the 1st of September he returned to Edinburgh, which of course he found greatly changed since he had resided there thirty-seven years before; and, for the next fortnight, he had great pleasure in showing me the places he had known when a boy. On the 13th of September, having hired a carriage at Edinburgh, we set out on our return home by land, and, at Newcastle, we spent two or three days with our friends Mr. and Mrs. Sopwith.

In December, 1841, appeared the first number of the *Encyclopædia of Trees and Shrubs*, the work consisting of ten monthly numbers. The abridgment of the *Hortus Lignosus Londinensis* was published immediately on the conclusion of the *Encyclopædia of Trees and Shrubs*, and in May, 1842, appeared the *First Additional Supplement to the Encyclopædia of Cottage Architecture*.

In addition to the works which have been enumerated, Mr. Loudon contributed to several others, such as the *Encyclopædia of Domestic Economy*, and Brandé's *Dictionary of Science, Literature, and Art*. He also wrote the article "Planting" for the new edition of the *Encyclopædia Britannica*.

Early in March, 1842, he had an attack of inflammation of the lungs, and, on

his recovery, we went down to Brighton for some weeks. We afterwards made a tour through Somersetshire, Devonshire, and part of Cornwall, and, on our return to Exeter, Mr. Loudon went to Barnstaple, in the neighborhood of which he was about to lay out some grounds for Lord Clinton, sending Agnes and myself back to London. When he returned home, I noticed that he had a slight cough, but, as it was trifling, it did not make me uneasy, particularly as his spirits were good. He now finished his *Suburban Horticulturist*, which had been begun two years before, but had been stopped on account of his illness in Scotland; this work was published by Mr. Smith, of Fleet Street, all his other works, from the appearance of the *Encyclopædia of Gardening*, having been published by Longman.

In 1843, his time was chiefly occupied by his work on *Cemeteries*, with which he took extraordinary pains, and which was very expensive, from the number of the engravings. In August, we were invited to Derby to pay another visit to Mr. Strutt, but he was too ill to go, and the doctors pronounced his complaint to be a second attack of inflammation of the lungs.

Previously to Mr. Loudon's illness, I had agreed to write a little book on the Isle of Wight, and to visit it for this purpose. This arrangement I now wished to give up, but his medical men advised us to go, as they thought the air of the Isle of Wight might re-establish his health. Strange to say, up to the time of our leaving home, I had no idea that his illness was at all dangerous; but the fact was, I had seen him recover so often when every one thought he was dying, that I had become accustomed to place little reliance on what was said of his attacks by others. When we reached the Isle of Wight, however, I was struck with a degree of listlessness and want of energy about him that I had never seen before. He became rapidly worse while we were in the island, and most eager to leave it. On our arrival at Southampton, where he was laying out a cemetery, he felt better, and, taking a lodging there, he sent Agnes and myself back to town. In a fortnight I went down to see him, and I shall never forget the change I found in him. The first look told me he was dying. His energy of mind had now returned. He not only attended to the laying out of the cemetery at Southampton, but, during his stay in that town, he corrected the proofs of the second *Supplement* to his *Encyclopædia of Agriculture*, and then went alone to Bath, in spite of my earnest entreaties to be permitted to accompany him. At Bath, he inspected the ground for another cemetery, and also the grounds of a gentleman, though he was obliged to be wheeled about in a Bath chair. He then went, still alone, to the seat of Mortimer Ricardo, Esq., near Enstone, in Oxfordshire, where he was also obliged to be wheeled round the grounds in a chair. When about to leave, he appeared so ill, that Mr. Ricardo offered to send a servant with him to town.

He returned to Bayswater on the 30th of September, 1843, and at last consented to call in medical aid, though he was by no means aware of his dangerous state. He supposed, indeed, that the pain he felt, which was on the right side, proceeded from an affection of the liver, as, both times, when he had inflammation of the lungs, the pain was on the left side. On the 2d of October, I went with him to call on Mr. Lawrence, in whom he had the greatest confidence, and that gentleman told him, without hesitation, that his disease was in his lungs. He was evidently very much struck at this announcement, but, as he had the fullest reliance on Mr. Lawrence's judgment, he was instantly convinced that he was right. I think, from that moment, he had no hope of his ultimate recovery, though, in compliance with the wishes of different friends, he afterwards consulted several other eminent medical men, of whom Dr. Chambers and Mr. Richardson attended him to the last.

As soon as Mr. Loudon found that his disease was likely to prove fatal, he

determined, if possible, to finish the works he had in hand, and he labored almost night and day to do so. He first, with the assistance of his draughtsman, finished a plan for Baron Rothschild, then one for Mr. Ricardo, another for Mr. Pinder, and, finally, a plan for the cemetery at Bath. He had also engaged to make some additional alterations in the grounds of Mr. Fuller at Streatham; he went there on the 11th of October, but he was unable to go into the garden; this was the last time he ever attempted to visit any place professionally. He continued, however, to walk in the open air in his own garden, and in the grounds of Mr. Hopgood, nurseryman, at Craven Hill, for two or three days longer, though his strength was fast decreasing; and, after the 16th of October, he did not leave the house, but confined himself to his bedroom and a drawingroom on the same floor. Nothing could be more awful than to watch him during the few weeks that yet remained of his life. His body was rapidly wasting away, but his mind remained in all its vigor, and he scarcely allowed himself any rest in his eagerness to complete the works that he had in hand. He was particularly anxious to finish his *Self-Instruction for Young Gardeners*, which is published nearly in the state he left it, though, had he lived, it would probably have been carried to a much greater extent. About the middle of November, the medical men who attended my poor husband pronounced his disease to have become chronic bronchitis; and this information, combined with the pressure of pecuniary difficulties, had a powerful effect upon him. He now made an effort that can only be estimated by those who knew the natural independence of his mind, and the pain it gave him to ask even a trifling favor. He wrote a letter stating his situation, and that the sale of three hundred and fifty copies of the *Arboretum* would free him from all his embarrassments. This letter he had lithographed, and he sent copies of it to all the nobility who took an interest in gardening. The result was most gratifying. The letter was only dated the 1st of December, and he died on the 14th of that month; and yet, in that short space of time, the noblemen he appealed to, with that kindness which always distinguishes the English aristocracy, purchased books to the amount of £360. Mr. Loudon had intended to forward similar letters to all the landed proprietors and capitalists; though only a few were sent, they were responded to with equal kindness. Our munificent and noble-minded friend, Joseph Strutt, Esq., took ten copies, and letters from two of our kindest friends (William Spence, Esq., and Robert Chambers, Esq.), ordering copies of the *Arboretum*, arrived the very day he died.

This appeal was principally rendered necessary by the pecuniary difficulties I have alluded to, and which, undoubtedly, hastened his death. The debt on the *Arboretum*, which, as already stated, was originally £10,000, had, by the sale of that book and of the *Cottage Architecture*, been reduced to £2,400; but he had incurred an additional debt of £1,200 by publishing the *Encyclopædia of Trees and Shrubs*, his edition of *Repton*, and other works, on his own account, though all his creditors agreed to the same terms, viz: to wait for their money until they were paid by the sale of the works themselves, on condition of Messrs. Longman holding the stock of books in trust, and not paying any of the proceeds of the works to Mr. Loudon till the demands of his creditors were fully satisfied. Unfortunately, however, one of the creditors, the engraver, became a bankrupt, and his assignees began to harass Mr. Loudon for the debt due them, which was about £1,500, threatening to make him a bankrupt, to arrest him for the sum, &c. I believe they could not have carried their threats into execution without the consent of the other creditors, and who behaved most kindly and honorably throughout. But the agitation attendant on the numerous letters and consultations respecting this affair, proved fatal to my poor husband.

On Wednesday, the 13th of December, 1843, he sent me into London to see the assignees, and to endeavor to bring them to terms, our kind and excellent friend, the late Mr. Joseph Strutt, having promised to lend us money for that purpose. The assignees, however, refused to accept the terms we offered, unless Mr. Loudon would also give up to them his edition of *Repton*, which he was most unwilling to do, as the debt on that work was comparatively small; and, consequently, he had reason to hope that the income produced by it would be soonest available for the support of his family. He was accordingly very much agitated when I told him the result of my mission, but he did not on that account relax in his exertions; on the contrary, he continued dictating *Self-Instruction* till twelve o'clock at night. When he went to bed he could not sleep, and the next morning he rose before it was light. He then told me he had determined to sacrifice his edition of *Repton*, in order to have his affairs settled before he died, adding, "but it will break my heart to do so." He repeated, however, that he would make the sacrifice, but he seemed reluctant to send me into town to give his consent; and most fortunate was it, as, if I had gone that morning, I should not have been with him when he died. He now appeared very ill, and told me he thought he should never live to finish *Self-Instruction*; but that he would ask his friend, Dr. Jamieson, to whom he had previously spoken on the subject, to finish the work for him. Soon after this he became very restless, and walked several times from the drawing-room to his bedroom and back again. I feel that I cannot continue these melancholy details: it is sufficient to say, that though his body became weaker every moment, his mind retained all its vigor to the last, and that he died standing on his feet. Fortunately, I perceived a change taking place in his countenance, and I had just time to clasp my arms round him, to save him from falling, when his head sank upon my shoulder, and he was no more.

I do not attempt to give any description of the talents or character of my late husband as an author; his works are before the world, and by them he will be judged; but I trust I may be excused for adding, that, in his private capacity, he was equally estimable as a husband and a father, and as a master and a friend. He was also a most dutiful son and most affectionate brother.

It was on the anniversary of the death of Washington (the 14th of December) that Mr. Loudon died, and he was buried, on the 21st of December, in the cemetery at Kensall Green. When the coffin was lowered into the grave, a stranger stepped forward from the crowd and threw in a few strips of ivy. This person, I was afterwards informed, was an artificial flower maker, who felt grateful to Mr. Loudon for having given him, though a stranger, tickets for admission to the Horticultural Gardens, and who, never having been able to thank Mr. Loudon in person, took this means of paying a tribute to his memory.

DWARF PEARS.

BY SAMUEL B. PARSONS, FLUSHING, LONG ISLAND, N. Y.

If experiments are successful, they give great pleasure; if they fail, the mind rarely likes to dwell upon them. Such have been my experiments with dwarf pears.

In 1848, I planted an orchard of somewhat over four acres, containing about four hundred and fifty standard and one thousand four hundred dwarf pears. The ground was highly manured and thoroughly cultivated each year.

For several years, the trees grew most rapidly. The varieties of the dwarf were those which do well upon the Quince, Vicar of Winkfield, Glout Morceau,

Louise Bonne, and Lawrence. The Vicar of Winkfield, occupying about one-third of the orchard, outstripped all the others. The culmination of this variety was in 1852. Familiar as I have been, from childhood, with vegetation in its most beautiful forms, I think I never saw anything surpassing the beauty of these Vicar of Winkfield Pear-trees at that time. The rows were perfectly straight, the trees were making rapid growth, and the fruit hung all over them almost as thickly as the leaves, bending down each branch to that graceful curve which artists think the true line of beauty. Several pear connoisseurs came from a distance to see them, and thought the sight amply repaid them for a long journey. I shall not soon forget the pleasure my orchard gave me that whole summer, from the first budding-out of the young and delicate leaflet and the overlying mass of snow-white bloom to the well developed fruit, gradually increasing in size, and daily assuming a more brilliant color, till every branch was pendent in ruddy gracefulness. I well recollect that the beauty of this orchard was sufficient to attract me in the hottest noon. But at no time was it so beautiful as in the early morning, when leaf and fruit were all covered with dew-drops, and the sun rose upon them, making them glisten and sparkle like diamonds mounted on emerald.

All this afforded pleasure, but I knew this was not enough. The vital question was—would they pay? So I waited till October came, and then gathered them. The yield was enormous, equalling all my anticipations. I sold them to a dealer at prices sufficiently high—if I recollect right, some five dollars per bushel. I have not now any memorandum of the whole yield of the orchard, but it was sufficient to demonstrate to me an important problem—given land, manure, and dwarf pear-trees, the result would be a large income. With this conviction, I wrote an article giving my experience, and highly laudatory of dwarf pears, which article, I now much regret, was extensively copied in magazines and books on fruit.

And I had abundant data to warrant me in arriving at this conclusion. I had tested the matter by actual experiment, had grown the trees and fruit, and received the money. So I bought another farm, and commenced preparing it for pear-trees. This required two years, but, before the two years had elapsed, my opinion of dwarf pears had undergone a material change. I continued to give my pears the same cultivation I had before given them, growing between them all my kitchen vegetables and beets for stock. The year after the great yield mentioned above, I noticed that the dwarfs were less thrifty, while the standards in the same orchard grew as before. The next year, I noticed that they were losing ground still more, and, the third year, they looked and promised so poorly, that, with a few exceptions, I sold the whole orchard to a person who offered a large sum for them. He removed them to Pennsylvania, and I do not doubt that they grew well after being placed in new ground. The standard pears are still growing as satisfactorily as I could wish, and I feel assured that pear culture, with standards, can be made very profitable.

My opinion, therefore, of dwarf pears, founded upon actual experiment and careful culture, is simply this: that they are very nice toys, and, like a beautiful picture, may give great pleasure. They are admirably fitted for a small garden where they can be nursed, spaded, trowelled, and fed with special manures. No one should be without them, if it were only for the pleasure they give. I have no hope whatever that they will be found profitable in orchards for growing fruit on a large scale for the demands of our large cities.

We may ask why the same treatment that produces certain results in a small garden, could not be applied in a large orchard of a hundred acres? There is no reason why it *could* not be; but it may be safely assumed that it *would* not be.

Old Priam was less careful in the training of his children than the father of an only child. The owner of a flock will never care for them as a child cares for its pet lamb. As human nature is constituted, so it will always be; to grow fruit for the supply of such a country and population as ours, we must have stocks and varieties that will do well *under ordinary good treatment*.

Amateurs will always have others of fine flavor, perhaps, to make up for their more delicate organization; but those who grow for market, will desire trees from which they may, with reasonable care, expect a good crop. These will have much reason to complain, if those who sell and those who know, allow them to invest their capital in that which may not yield them any profit.

It is, therefore, that having, in former times, in the full flush of successful experiment, and in all good faith, written in praise of dwarf pears, I feel bound, in all fairness, to give also my subsequent experience, that no one may be misled by any statement of mine. However my opinions may conflict with those of others, they will not doubt my sincerity when they recollect that this expression of them is opposed to my pecuniary interests.

[It was due to the many readers of Mr. Parson's article in the *Horticulturist*, some years ago (in which he strongly approved of the dwarf pear as an orchard-tree), that he should tell his subsequent experience, for which many have been looking. We continue to receive communications referring to the very article the above contradicts. The whole question is now left to the only true argument we can anticipate can be brought to bear on the subject. Let the pears which were promised be seen in the markets, and all will be convinced. We *hope* still for the good time to come, and whether it be a supply from the millions of dwarfs or standards that have been planted, the "dear public" will care but little, if they only have the fruit. Meantime, let all who have any kind of fruit-trees, hurry the fruit into the Philadelphia market, where not one in a thousand has yet *tasted* a good pear; they occasionally see a good one, in Newton's window, at from fifty cents to one dollar, but they want a *bushel* for those prices.—ED.]

GARDEN VEGETABLES, NO. 3.—THE PEA.

BY WILLIAM CHORLTON.

A DISH of well cooked Green Peas is always acceptable on the dinner-table, and no garden is perfect, if a portion be not occupied, in the proper season, with this universally esteemed favorite.

The Pea is indigenous to the South of Europe, and all the usually cultivated sorts are varieties of an annual plant named, by botanists, *Pisum sativum*. During the last twenty-five years, there has been much attention paid to the improvement of sorts, which has resulted in far better quality than formerly.

To have a regular succession of crops is a desideratum, and, to secure this, many persons think it necessary to employ many sorts. This, however, is an error; for with a judicious selection of some three of the best, and attention to sowing, an uninterrupted supply may be had so long as the weather is favorable to their development, for, notwithstanding its southern origin, our hot and dry summers, except in favored localities, act so powerfully upon the cellular texture, as to prevent healthy action, and cause it to be next to worthless. Generally speaking, we are satisfied with what out-door culture can accomplish, in which case, it is only reasonable that there should be no delinquency; but fresh peas *may* be had most of the year, when expense and convenience are not wanting. The most suitable soil is newly turned up, but well worked and friable pasture land, mode-

ately fertile. Fresh or rank manure causes too luxuriant a growth, with paucity of fruit, and never ought to be used, more particularly in soil which has had any previously liberal dressings. In such places, choose the poorest quarters, or those in which the dung has become thoroughly incorporated. Before sowing, the land ought always to be loosened some nine inches deep, with the spade, plough, or fork. The seed may be evenly scattered along the bottom of drills two inches deep, and made level there. This operation is best performed by the spade, used almost in a horizontal position by the workman, as he travels along the side, but not in, the hollow. The requisite distance apart of these drills depends upon the height of the variety; for instance, those which usually grow five feet high, will only have light and air enough at five feet from row to row, while the dwarf, or sorts of two feet, will do with half the space. There is also a difference of seed required, as some kinds are of more spreading habit than others. When these peculiarities are already known to the sower, he can limit accordingly, but something like rule is necessary to the novice, and surety will be gained by using one pint of seed to a drill seventy feet long. Allowing that every day, successively, something like a peck and a half were wanted, this would take from eight to nine quarts of seed; and as information is best conveyed by recording one's own best success, in my own practice it is an object to have peas as early as possible, with daily pullings, kept up until the heat and drought render further sowings abortive.

So soon as the ground is in good working order, a warm spot on the southern side of a fence is well and deeply loosened up with the spade; the drills are opened and sowed, as above described, with one quart of *Extra Early* (Sangster's Early No. 1 was tried last year, and proved the best early pea I have seen), one quart of *Early Warwick* or *Early Frame* (alias Prince Albert), and, at the same time, on the piece for general successions, one quart of *Champion of England*. These three kinds, all sown at the same time, give a supply which comes in immediately after each other, from their individual difference of precocity or lateness. Previous to this, about the middle of February, one quart of the earlier sort is sown in shallow boxes, and placed in a cold frame or late grapery, kept from frost. In the latter part of March, or beginning of April, trenches are made the same as for sowing, but deeper, in the warmest spot at liberty; the boxes are conveyed thither containing the young plants which are then four inches high, the loosely tacked side of each is drawn off, and the whole contents are slid carefully in the trench; the next box to the end of the former one, and so on until all are done. The sides are afterwards filled in, and the soil left as a ridge on the north side, which assists in protecting from cold winds. The boxes are left also alongside the rows for a time, and, if there be danger of frost or severe weather, they are inverted over the tops of the plants. By this little extra trouble, I generally gain some ten days over those sowed as described in the open ground. So far, we have four successions by two sowings, and the using of three sorts, the Champion being the latest. To keep up after supply, one quart of the latter kind is sown each two weeks until the middle of June; after this, the weather prevents, in my situation, any further success. The object in using only one variety for all after-sowings, is the certainty of regular supply, which cannot be so well secured by many kinds, as they do not come in with the same exactness; and the reason for choosing the Champion of England exclusively, is on account of its excellent flavor and good bearing qualities. It is a tall growing Pea, however, of five to six feet, and should be sown in rows six feet apart. This distance is suitable for celery, and, consequently, this latter may be put in for a fall crop, thus more economically occupying the ground.

So far, we have got a supply that will be fit for use from the middle of May to

the middle of August, when, unless in unusually cool situations, there will be a blank. Sowings may be made the whole season, but, in any case, we may commence again about the latter mentioned period; and here it is best to put in one of the earlier sorts, because there may probably be some frosty nights before the later kinds would be filled in the pod. This sowing will be ready—say the latter part of September, or early in October, and continue on for some time; and if it be desirable to have Peas until New Year, an after-sowing may be made in box-frames having glass sashes. In this case, the dwarf sorts alone are admissible, and *Bishop's Dwarf*, or *Queen of Dwarfs* are two of the best, the rows being eighteen inches asunder. The glasses ought not to be put on until frosty nights are to be expected, and then air should be freely given on all favorable opportunities, the intention being not to force, but to protect.

As above, the possibility is, Peas may be had most of the year, viz: from May to January, with a brief deficiency of about six weeks; it is, however, necessary to have a low house or glazed pit, with the convenience of artificial heat. This will only be needed in severe weather, and just enough heat, but not more, kept up to give a temperature of 45° in the night, with a rise to 60° in the day. The sowings and kinds will be the same as for frames; air will be required freely, but frost guarded against; it is here absolutely necessary to pinch out the tops of the vines when in full blossom, in order to assist the pods to fill. In this particular instance, it will always be found of benefit not only under glass, but in out-door culture, if time be allowed, and patience will undertake to do it. There is often much waste made in gathering the pods; a great deal of difference, also, between the good or bad quality depends upon this operation. Green Peas are always best when fairly swollen, but not so far so as to be approaching maturity. On the other hand, if pulled too young, the flavor is deficient, and the husks predominate. A little observation only is required. A trifling care in this respect, will often make a crop do double the service.

How to Boil Peas.—Put them in boiling water in which one teaspoonful of common salt and one-fourth of a teaspoonful of carbonate of soda has been dissolved in each three quarts. Simmer very slowly twenty minutes, drain the water off through a hair-sieve, and add pepper and butter to taste.

It is presumed that the above-mentioned kinds will not satisfy all persons, notwithstanding a surety and good quality will be gained thereby. To make our essay more complete, a list of the best sorts is appended below:—

Woodford's Green Marrow.—A good bearer, of fine quality; very green; grows three to four feet; a late sort.

Knight's Dwarf Marrow.—A fine sort; good bearer; flavor sweet; grows three to four feet; second early.

Hair's Dwarf Mammoth.—A large late Pea, of good flavor.

Fairbeard's Surprise.—Very good; flavor sweet; grows five feet, and continues bearing a long time; second early.

Blue Scimitar.—One of the best; continues bearing longer than the last mentioned; grows five feet; second early.

Flack's Victory.—Large, productive, and sweet; a late sort; grows three feet.

Warner's Early Emperor.—A good early Pea; very productive; grows four to five feet.

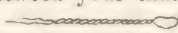
More might be noticed, but the above contains all that is necessary for all purposes, and they are of the very best.



THE GAPES IN FOWLS.

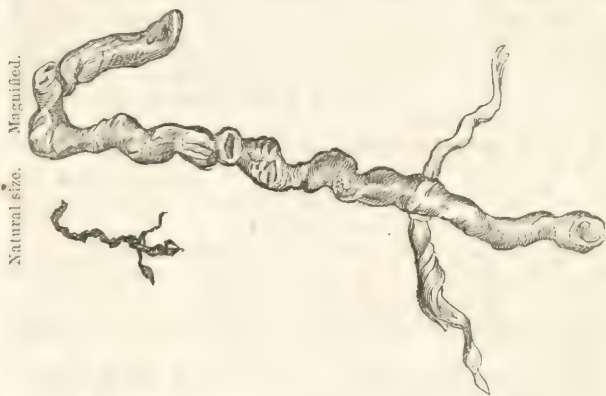
J. J. SMITH, Esq.—DEAR SIR: Believing it a duty to make public anything that may be advantageous to others, I submit the following infallible remedy for the gapes or gaps in young chickens. It is well known that a species of entozoa, called the red-worm, infests the trachea of fowls, obstructing the air-passage, or windpipe—the cause of this distressing malady.

In answer to a letter, in which I briefly stated my experience, Prof. S. S. Haldiman informed me that D. J. Brown describes the worm, and gives various remedies in his *American Poultry-Yard* (p. 264) [this I have not seen], adding that my method was new to him; it may be so to others—I have, at least, never seen it published.

Take a hair from a horse's tail; double it once or twice, if need be, to stiffen it; twist the doubled hair between your thumb and finger, so as to leave but a small loop at the other end (). Now seize the tip of the tongue of the afflicted fowl, and extend it out and downwards, which will enable you to introduce the doubled horse-hair as far down the windpipe as necessary; let the hair untwist, or assist a rotary motion with your thumb and finger, which will entangle the slimy worm, and it will be found on the hair on withdrawing it.

Sometimes two or more are brought away at one operation, much to the relief of the sufferer, and, when skilfully performed, effects a perfect cure, to which I can

testify. The following drawing represents this parasite considerably enlarged. The head is cup-shaped, open, the larger being the female; the male is smaller, and soldered on, centrally, at some distance behind the head of the female, the body of which is contorted, and watered by thread-like bodies, of various shades of colors, curiously plaited and twisted within, and distinctly visible



Entozoa from the trachea of a young chicken.

through the transparent cuticle. Those may prove to consist of species of entophyta, or vegetable parasites, found within the animal parasite, many of which are beautifully illustrated, and the accounts published, by the Smithsonian Institute, the discovery and research of your fellow-citizen, Joseph Leidy, M. D.

Very respectfully yours,

JACOB STAUFFER.

Mount Joy, Pa.

THE BUCKWHEAT-TREE.

Cliftonia mylocorium.

THIS curious production has excited very little attention among us. It is a native; and, no doubt, partially hardy, if not entirely so, in this latitude. By

turning to the second volume of Nuttall's *Supplement to Michaux's Sylva*, the following curious account is found, together with a figure of the tree in blossom:—

"This elegant tree, which enlivens the borders of the pine-barren swamps of the South, is met with nowhere north of the Savannah River, on the line of Georgia and South Carolina. From hence, it is occasionally seen in all the lower and maritime region of Georgia, as well as the lower part of Alabama and West Florida. It attains the height of eight to fifteen or more feet, being much branched, and spreading out at the head like an apple-tree. The verticillate branches are regularly covered with a smooth, gray bark. The wood is compact and whitish. It is exceedingly ornamental in flower, which takes place in early spring (March), when the whole surface of the tree is covered with the most delicate, elegant, and somewhat fragrant flowers. * * When the flowers are past, the tree puts on a still more curious appearance, being loaded with triangular-winged capsules, resembling buckwheat, and hence its common name. The leaves resemble those of privet, are evergreen, thick, very smooth, not perceptibly veined, and glaucous beneath."

Mr. Bartram discovered this tree, and very clearly describes it as "a new shrub of great beauty and singularity. It grows erect seven or eight feet high. A multitude of stems arise from its root; these divide themselves into ascending branches, which are garnished with abundance of narrow, lanceolate, obtuse-pointed leaves, of a light green, smooth and shining. These branches, with their many divisions, terminate in simple racemes of pale, incarnate flowers, which make a fine appearance among the leaves. The flowers are succeeded by desiccated, triquetrous pericarpi, each containing a single kernel." (Bartram's *Travels*, p. 31.) How so fine a plant came to be overlooked for near half a century, and to be still unIntroduced among us, is really surprising. "In the Northern States, and in Britain," Nuttall says, "it is a hardy greenhouse plant, and well worth cultivating. But, to see it in perfection, you must behold it in its native swamps, attaining the magnitude of a tree, and blooming profusely on the verge of winter, without anything near it as a contrast, save a withered carpet of leaves and leafless plants, and in the midst of a gloom and solitude that scarcely anything else at the same time relieves."

He adds: "In Bartram's Botanic Garden, Philadelphia, it appeared to be quite hardy, and survived for many years without protection."

If any of our friends have this tree, they will confer a favor by informing us, and if any correspondents at the South can supply us with a few seeds the coming season, they will especially oblige us.—EDITOR *Horticulturist*.

VEGETABLE PHYSIOLOGY—THEORY OF NUTRITION AND GROWTH.

BY YARDLEY TAYLOR, LOUDON COUNTY, VA.

WHEN philosophers began to make observations on the operations of nature, and to form theories respecting its laws, they did so by observing but a few of the facts bearing upon the subject. Thus their theories were often very imperfect at first, and founded more upon fancy than fact. But as facts began to be more and more observed, and finally acknowledged as the only true base of theory, most of these, being fanciful, have been so modified, as to conform nearer to what appears to be the true laws of nature. Witness the ancient theories of the motions of the earth and the planets, &c., of the circulation of the blood, and the process of nutrition and growth of animals, as well as the process of nutrition and growth

of vegetables. Philosophers have given so much attention and research to the motion of the heavenly bodies, and made themselves so well acquainted with the laws governing the same, as to be able to predict the time and place of the appearance of a hitherto undiscovered planet. The theory of the circulation of the blood, and of nutrition, is believed to correspond very nearly to the laws of its government, and will account for the varied phenomena we witness. The science of vegetable physiology, being of later origin, may be said to have not yet reached that degree of perfection of which it is capable, nor so fully to correspond to the facts bearing upon it.

When philosophy began to turn its attention to the circulation of the sap, and the growth of vegetable matter, and to form a theory of its laws, the circulation of the blood in the animal economy, and its laws of nutrition, were supposed to present a parallel case so nearly allied, as to be taken as the type of the law in that case. The fact of the circulation of the sap from the roots to the leaves, and the proof that carbonic acid gas was imbibed by them, while water and oxygen gas was given off, seemed to point strongly to the conclusion that the leaves acted to the vegetable in a similar manner to what the lungs did in the animal. It was believed that the carbonic acid and other substances were taken up by the roots in a fluid or gaseous state with the sap, and then carried by it to the leaves, where, being exposed to sunlight in their broad surfaces, a decomposition or change took place, making these materials organizable, or ready to be assimilated by the plant. This newly prepared matter was now supposed to descend between the bark and the wood, and to be deposited as growth, thus carrying out the parallel between the animal and vegetable economy. This parallel is beginning to be seen not to exist to the extent it was once thought. Professor Gray, in his *Botanical Text-Book*, says "there is no circulation in plants similar to that in animals."

In the last number of the last volume of the *Horticulturist* (page 555), is an article on the "True Theory of Grafts." In this article, Dr. Lindley's "own words" are directly applicable to the case. "It is, however, now certain," he says, "that although wood is formed by a descending process, yet that its descent is not in an organized state. Fluid matter—out of which it is produced—passes indeed from above downwards, but the formation itself is wholly local and superficial, and, consequently, there is no such thing as an incasement of the lower part of a tree by wood descending from above." This "important fact," as he terms it, receives "a new demonstration" from the experiment of "Dr. Maclean," who, in grafting a white beet on a red beet, "and *vice versa*," showed that there was no "blending of the two colors," but that the growth of the white part made white growth, and of the red part made red growth, whether the root from which it received its sap was red or white. Thus proving, that of each part "its own cells produced its own coloring matter as they formed superficially." "This is entirely consistent," says the writer of the article alluded to, "with all that has been discovered by the modern physiologists who have applied themselves to a study of the nature of the individual cells of which plants consist."

Admitting these positions to be true, and "that each cell has its own inherent power of secretion," and that "fluid matter out of which wood is produced," is "not in an organized state" in its supposed downward descent, it may be asked, where is the necessity for such "descending process" at all? What advantage is gained by the "fluid matter" being carried to the leaves, as is supposed, if, in its descent, it is not organized, but that "each cell has its own inherent power of secretion," and "perseveringly retains that which is natural to it?" Indeed, there are strong reasons for believing that there is no such downward process at all. Where is its evidence? where is the necessity for its existence? It has been

supposed that light acts by decomposing the carbonic acid gas in the sap as it is carried through the leaves, and thus enables the plant to appropriate the carbon in building up its own structure. But is there any evidence in chemistry that sunlight can decompose carbonic acid, or release oxygen from its compounds in any case. Until this is shown, it would seem to be hardly proper to attribute to it an effect without some proof of its power to produce such an effect. That such an effect is produced, is no evidence that that was the agent in producing it; more particularly, as there is an agent in nature that is known to produce such an effect, and one within reach of every plant.

That agent is electricity, the power of which is perhaps not yet fully ascertained, but enough is already known to consider it fully capable of performing all that may be required of it in the growth of plants. The beautiful art of gilding by galvanism is proof of this. In this case, the metal is dissolved in acid, the oxygen here dissolving the metal, making it fluid and colorless. Now, if the object to be gilded is connected with the pole of a battery, and galvanism applied, the one pole will attract the oxygen, and the metal in solution will be drawn to the other pole, and will be distributed over the surface to be gilded. Now, as carbonic acid gas is a union of carbon and oxygen (and it is from this that vegetable physiologists generally consider wood is derived in its growth), and as carbon is positive and oxygen is negative, it is fair to presume that the application of electricity in such case would release the oxygen and retain the carbon, and unite it to the already formed wood of the plant. That carbonic acid gas is carried up by the sap as well as imbibed by the leaves, is now generally admitted, and as this gas is readily imbibed by water, and will unite with it in large proportion, we have the exact condition necessary to effect the object desired, on the application of electricity, without resorting to any supposed hypothesis.

That electricity is present, in sufficient quantities, during the growing season, we have reason to believe from experiments already made. In a work published in New York, and styled "The Farmer's Guide to Scientific and Practical Agriculture," by Henry Stevens, of Edinburgh, and J. P. Norton, of Yale College, is an article on "Electro-Culture." In this article, the author quotes the language of William Sturgeon, of Manchester, who has bestowed much attention to the subject of electricity in all its bearings, and who asserts that "this active element of nature is so universally diffused through every part of the terrestrial creation, that it becomes an occupant of every part of the earth's surface, and of the shell of air that surrounds it; that trees, shrubs, plants, flowers, and crops of every kind, partake of this electric distribution;" and then goes on to show that "each individual object is requisitely susceptible of disturbance when the circumstances vary," when they become "positive" and "negative" to each other. This condition, "the various objects which constitute the vegetable clothing of the land are now in precisely the same condition, being positive and negative with regard to each other. A similar inequality of electric force occurs among growing plants and their manures, and even amongst the various elements which constitute the latter, no two of them being precisely alike at the same time." And after describing the manner of electric action, the writer concludes: "From this train of reasoning, we are led to some of the most interesting points in vegetable physiology. The electro-polar condition of plants qualifies them in an eminent degree for the performance of those operations which develop electro-chemical phenomena; and, what is very remarkable, the laws of this beautiful branch of electricity are rigidly enforced, and admirably complied with, in the decomposition of carbonic acid gas by their foliaceous parts; for, in this process, the electro-positive carbon is drawn to the electro-negative poles of the plants in precisely

the same manner as any electro-negative pole, artificially made, would release the carbon from the oxygen, and select it in preference."

Here, then, we have a theory of nutrition and growth of vegetable matter, in connection with the living principle, that will account for all we see of growth, without having recourse to the doubtful theory of the downward flow of sap, and the decomposing power of sunlight. Admit that the sap carries up with it, from the roots, matter suitable for growth, and that with the carbonic acid gas imbibed by the leaves, and distributed through the sap (as it no doubt is), then, by the agency of electricity passing through the sap, and decomposing the gas, the carbon is precisely in the place where needed for growth, and its conditions, as far as we know them, are as completely fulfilled in that case as they can be supposed to be in the other. It will set aside the necessity of a supposed downward flow of sap, which has been often asserted, but never proved. It will further release the theory of the absurdity of supposing two sets of vessels, one for the upward, and the other for the downward flow of sap, when no such distinction can be perceived, and when there is no power that we know of can produce such an effect. Physiologists will doubtless see cause to advance this further step in theory, and no longer assign to nature's laws a round-about way of producing a result, when all we see in her laws are remarkable for simplicity.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

THE annual meeting of this Society was held at the Court House, in Rochester. The following gentlemen were unanimously elected officers for the ensuing year:—

President—JOHN J. THOMAS, Union Springs.

Vice-Presidents—ASA ROWE, Sweden; H. P. NORTON, Brockport; E. C. FROST, Catharine.

Secretaries—J. B. EATON, Buffalo; H. E. HOOKER, Rochester.

Treasurer—W. P. TOWNSEND, Lockport.

A committee having been appointed to propose subjects for discussion, made a report of the following questions, which were discussed in the order reported:—

SMALL FRUITS.—Several members of the Convention thought the Currant might be grown extensively, both for sale and for making wine.

Mr. Barry being called upon to state some of the best varieties, recommended the *Cherry Currant*, the *White Grape*, and the *Victoria*—the two latter excellent bearers; the *Cherry Currant*, not quite so good, though very fair, and the *Victoria*, valuable on account of its lateness.

Mr. Warren, of Genesee Co., found the *Cherry Currant* very productive, more so than any other variety.

Dr. Long found the *Black Currant* to make the best wine, as good as *Port Wine*, and very much resembling it, and exceedingly valuable for medicinal purposes. The doctor strongly recommended the growth and use of the *Black Currant*.

The *Raspberry* was recommended by Mr. Burtis, and others, as worthy of extensive cultivation.

Mr. H. E. Hooker said the fruit growers in the neighborhood of Cincinnati, had cultivated the *Black Raspberry* for market. It would bear shipment without injury. The *Antwerps*, and other varieties, would spoil in twelve hours after picking.

Col. Hodge, of Buffalo, had found the common *Black Raspberry*, or *Black Cap*, as it is generally called, the most hardy, and, take it altogether, the best for general cultivation. The *Antwerps* were tender unless grown among trees, which would afford sufficient protection. Covering the plants in the fall was troublesome and expensive. The *Allen* is a variety much grown around Buffalo, and is a native of Ohio. It is of a reddish black, and a superior fruit.

Mr. Barry said the growing of the *Antwerps*, and other good varieties, is profitable near large cities. The *Red Antwerp* is the variety grown so extensively on the Hudson River for the New York market. His practice was, in the fall, to bend the tops down, and throw a spadeful of earth over them. The snow soon covers them. The *Antwerps* are far superior, in flavor, to the native varieties mentioned—so is the *Orange*, and other varieties that might be named—they are the *Raspberry* in perfection. The *Red Antwerp* is hardy in the gardens about this city, requiring no protection.

Mr. Hooker observed that the *Black Raspberry* would usually sell higher than other varieties, being much sought after for preserving. The foreign varieties ripened very fast, and in a few hours were over-ripe, so that they required to be watched, or a portion of the crop was destroyed. This was not so with the *Black*. It would keep in good condition several days.

Mr. Stone, of Oswego, thought it worthy of notice that the *Black Raspberry* was not attacked by worms when ripe, like other varieties.

Mr. Barry considered this a bad sign, as insects were good judges of fruit.

If the people want the *Black Raspberry*, and are willing to pay more for them than for a better sort, so as to make their growth more profitable, of course fruit growers would do well to raise them. But, when all the pains necessary to grow better kinds is a slight protection in winter, in exposed localities, no one should allow the trouble to frighten them from their culture. This would be *progress* in the wrong direction. The *Black Raspberry* is too woody for our fancy. If we were obliged to eat a certain amount of wood, we should prefer to have it separate from the fruit.

Gooseberries.—Mr. Hooker thought *Gooseberries* a very profitable crop for market, if they could be grown free from mildew. Had raised some for market, which he sold at eighteen cents per quart.

Mr. George Ellwanger had found that the *Crown Bob*, *White Smith*, and other strong growing varieties, were not apt to mildew.

Mr. Hooker; on light soils, never got a good berry, even with thorough mulching. Had no trouble in growing *Gooseberries* free from mildew on a heavy soil. Houghton's Seedling had never mildewed with him.

Mr. Ellwanger had never known Houghton's Seedling to mildew, even on the lightest soil.

Mr. Hodge cultivated twenty varieties. Found that, after two or three years, the mildew entirely destroyed them. Does better in a heavy soil, but even then mildews. Heavy pruning and a stiff soil, are the best preventives. Never recollected seeing mildew on Houghton's Seedling.

Mr. Barry said the *Gooseberry* required a cool, moist soil. In Lower Canada, Maine, and in the northern part of this State, it succeeded almost as well as in the cool, moist climate of England.

Mr. Warren, of Genesee Co., had raised the *Gooseberry*, without trouble from mildew, in a light soil, on the north side of a board fence.

SHELTER.—Benjamin Hodge thought this subject very important. Shelter was essential to the growth of fruit in many localities. Peaches could not be raised at Buffalo—not on account of severe frosts, as many thought, but because of the

cold, bleak winds. At the lower end of Grand Island, is a tract of land called Peach Haven, it is protected from the west winds by a natural forest. There the Peach succeeds well. Would advise the planting of the *Norway Spruce*; it grows quick, and will afford good shelter.

Mr. Hooker said many fruit growers thought the principal injury to the Peach, was from the cold northeasterly winds in the spring, just after blossoming.

Mr. Burtis, of Rochester, would prefer the coldest, bleakest hill for a peach orchard, so that the ground would freeze deep, and thus keep the trees back in the spring.

Mr. Fish, of Rochester, had found, by experience, that when the Peach crop failed, it was, in almost every case, in consequence of extreme cold in winter.

Dr. Roach, of Ontario Co., has two peach orchards, of about two hundred trees each. One is exposed to the west wind, and the other pretty well sheltered. From the exposed orchard he gathered about a peck of peaches, last season, and, from the other, one hundred and fifty baskets.

Mr. Barry had no doubt but exposure to the west winds was very injurious. The winter before last, the west sides of hemlock-trees, standing in the natural forest, were injured by the cold of the winter, as were the west sides of privet hedges, and other hardy plants, plainly showing the evil effects of continued cold blasts from the west. Pear plantations that were exposed, bore but little. Mr. Barry agreed with Mr. Hodge, that the *Norway Spruce* should be recommended as a suitable tree to plant for sheltering orchards. For small gardens, the *Arbor Vitæ* would be suitable.

Mr. Langworthy had cultivated the Peach for twenty-five years, somewhat as a profession. He found that both the east and west winds destroyed a good deal of fruit. As a general rule, the rows of trees on the east and west ends of the orchards bear but little, while those in the other parts of the orchard bear well.

Of the value of *shelter* for the orchard, there can be but one opinion. Those who have travelled over the Western prairies, and noticed the effects of the tremendous winds that prevail there on fruit-trees, must *feel* the importance of shelter. Were we to plant an orchard on the prairies, we would almost surround it with a belt of Norways.

Hardy Grapes.—H. N. Langworthy would like to have gentlemen talk freely about the best method of cultivating the Grape. The finest Grapes, he often observed, were those that were grown on part of vines that had run up among the branches of some neighboring apple, or other tree, where they seemed to fully ripen in the shade. From this, he argued that the sun was not necessary to ripen the Grape—it seemed to require warm air.

Mr. Hodge hardly thought the Isabella Grape would ripen well in the neighborhood of Rochester, in ordinary seasons.

Mr. Barry thought, with proper culture, the Isabella Grape could be ripened in Rochester almost every season. He referred to the beautiful, well-ripened Isabellas raised by Mr. McKay, of Naples, Ontario Co., and called upon Mr. Johnson, who resided in the neighborhood of Mr. McKay, to give the meeting some information as to his mode of culture, profits, &c.

Mr. Johnson had been somewhat interested with Mr. McKay in the culture of the Grape. He pruned very close every season, and trained his vines on wire trellises some seven feet high. The lower branches were trained very near the ground. The vines were one rod apart each way, making one hundred and sixty to the acre. He thoroughly manured. The fruit ripened every season perfectly. The soil is gravelly, with a clay subsoil, and a northeastern exposure. The product is about \$1,200 per acre. Mostly sold at fifteen cents per pound.

Mr. Flower, of Syracuse, stated that a gentleman near Syracuse had sold \$800 worth of Grapes from half an acre.

Mr. Hodge was acquainted with Mr. McKay's Grapes. They are ripe Grapes—a beautiful black. Not one-quarter of the people of Buffalo ever saw a ripe Isabella Grape.

Mr. Ainsworth, of Bloomfield, was acquainted with Mr. McKay's Grapes. He has a favorable situation. He prunes very thoroughly both in the winter and in the summer, and thus the shade is lessened, and the fruit exposed to the light and air. Got a fair crop the third year after planting. At present prices, the cultivator can depend upon from \$500 to \$800 per acre profit.

Mr. Barry thought that this discussion must have convinced all that the Isabella Grape will ripen here every season; and that the raising of hardy Grapes is not only profitable, but exceedingly so.

Some remarks were made by Messrs. Johnson and Ainsworth in regard to their method of pruning the Grape.

GRAFTING OLD APPLE-TREES.—Mr. Hodge said, if trees were healthy and vigorous, it would be wise to graft; if old and sickly, it would be much better to cut them down, and plant out young trees. Some years since, a gentleman in his neighborhood wished him to send men to graft an old orchard on his place. Mr. H. advised him to cut down his old trees and plant a young orchard. He found some itinerant grafters that did the work. In three years, he was so sick of the operation that he cut the whole down, and planted young trees. If the ground is well prepared by thorough, deep ploughing and manuring, and the trees well cultivated, young trees will bear so early as to astonish those who plant. In 1848, he furnished a gentleman with one hundred apple-trees. From these trees, in the fall of 1854, were picked one hundred and twenty barrels of apples. They were mostly Baldwins and Greenings. Two Baldwin trees bore three barrels each.

Mr. Barber, of Ontario Co., had considerable experience in grafting old orchards. He did not graft in the tops of trees, but cut off large limbs six or ten inches in diameter, or more. Then put in good, strong scions, of some quick growing varieties, all around the limb, as thick as they can set, about an inch apart. This must be done before the sap starts. These scions grow and form a lip all around the limb of the tree, and the more feeble of these scions can be cut away. Trees treated in this way, had produced three barrels the third year. Had grafted Apple-trees in this manner that had been broken off, leaving nothing but a stump, and Pear-trees that had lost the entire head by blight, and never failed to get a good top. If the grafting was done early, a lot of shoots would soon appear, and furnish leaves enough to elaborate the sap.

Mr. Hooker had pursued a similar method with Pear-trees destroyed with blight, and with success. Also, with Apple-trees in a few cases. The wood of the large limb became discolored, and showed signs of decay.

Benjamin Fish thought there was no general rule for grafting old trees. If a tree had been well pruned and well cared for, it could be grafted with success; but as farmers generally treat their trees, pruning them with an axe, they become diseased, and when a large limb of such a tree is grafted, the wood decays, and the tree becomes hollow and worthless.

T. C. Maxwell said there were a number of old Apple-trees near Geneva, planted in the olden time by the Indians. These trees were cut down by Gen. Sullivan. They show signs of this, as many of them have two trunks. These trees were grafted fifteen years since, and are now profitable trees.

Mr. Barry thought Mr. Barber showed some knowledge of vegetable physiology in his remarks. He was opposed, however, to grafting old trees, when in a state

of decline, except in special cases—as when a person takes possession of a farm destitute of good fruit, with a few old Apple-trees growing. In such a case, it would be well to graft, so as to have fruit enough for family use as quick as possible.

Mr. Barry said that the growing of *Winter Pears* was yet a new business. *Winter Pears* could be grown as easily as *Fall Pears*—the only difference is the trouble of keeping the *Winter Pears* until they ripen. Most of the winter varieties will keep and ripen in barrels in the cellar, as easily as Apples. He had been surprised to find how little care and trouble they required. The *Easter Buerre*, *Lawrence*, and *Vicar of Winkfield*, may be grown and ripened here as easily as *Baldwin Apples*.

At this stage of the meeting, Mr. Barry presented to the Convention a fine dish of *Easter Buerre Pears*, kept in a barrel in the cellar until taken out to bring to the meeting.

Mr. Hodge observed, that in selecting *Pears* for market culture, it was important not only to get *Pears* of good quality, but those that bear large crops. As to making *Pear* culture pay, there could be no question about that. A *Pear*-tree in Mr. H.'s vicinity, bore forty bushels last season, and another, belonging to his brother, bore twenty bushels, which were sold at \$2 per bushel. This was an inferior variety.

Mr. Hooker found *Winter Pears* quite variable as to quality. Had no trouble in ripening them—the trouble was to grow them good. If well grown, they would ripen well.

Mr. Barry observed that trees of *Winter Pears* did not bear fine fruit until they attained some age. The *Glout Moreau* did not bear fine fruit, even on the quince, until eight or ten years old. *Winter Pears* must be well grown. Imperfect, poor specimens will never ripen.

A small, but very fine exhibition of *Winter Fruit*, was made by several members of the Society.—*Rural New Yorker*.







IPOMEEA TILIACEA - MORNING GLORY

PHARBITIS RUBRO-CÆRULEA.*

Convolvulaceæ, Pentandria Monogynia.

THE appearance alone, and the form of the flower, as well as can be produced in a picture, for want of an example from nature, oblige us to append to the *Pharbitis* this *Ipomæa* of authors. In adopting as a useful and probably natural division, this distinction of the *Pharbitis* from out of the still very irregular group of the *Ipomæas*, it seems to us evidently impossible to separate the species in question from the *Pharbitis hispida*, Choisy (*Convolvulus purpureus*, L.), prototype of this group of Liseron's Annual, so popular for the decoration of windows, balconies, and green arbors.

Notwithstanding the tropical origin of the *Pharbitis*, it owes to its annual continuance as well as to its rapid development, the faculty, valuable to us, of vegetating and flowering in the open air in our climate. It is, at least, true of the common species, such as the *Pharbitis hispida* and *P. Nil*; as to the less common species here figured from a cultivated specimen, last summer, in the Van Houtte establishment, it appears to be of a more delicate nature.

Pre-eminently distinguished in the genus by its general smoothness, and by the remarkable shortness of the calyx divisions, this species probably varies in color, and does not always present the contrast of blue and violet carmine on the two faces of the corolla. Let us add that, in the pictures of the model plant, the angles are sharply acuminate, instead of being, as in the figure, slightly indented and obtuse. Should not this constitute a specific difference? A question impossible to determine without studying the plant itself.

The *Pharbitis rubro-cærulea* comes from Mexico. It was introduced into England before 1834, by Mr. Samuel Richardson, then in the service of the Anglo-Mexican Society for the working of mines. We have every reason to believe that it is still very rare in the gardens on the continent. J. E. P.

Culture.—The *Pharbitis rubro-cærulea* should be sown in a warm bed, and under glass, redressed, and put into a warm greenhouse; or, simply sow it, soon after, in a warm greenhouse, in March or April. Its very tender stems require to be trained, twined into juniper branches, or any other small shrub with strong twigs. Later, place these stems within reach of some branched bush, to pass the summer, and the plant will very soon cover and ornament it. It will there display during the whole summer its numerous flowers, which are very large, and of the purest cerulean blue color! Here and there, a flash of carmine will ornament some part of the corolla.—*Flore des Serres*.

HABROTHAMNUS AURANTIACUS.

REGEL.

THIS belongs to a sub-genus of *Cestrum*, and it is sometimes called *Cestrum Aurantiacum*. This elegant species flowered first in the garden of Rurich, about 1850; its origin Guatemala; its color suffices to distinguish it from the other species of *Habrothamnus*, and especially *H. elegans*. It is a valuable addition to our greenhouse shrubs.—*Ibid*.

* See Frontispiece.

EVERGREENS.—WHAT SHALL WE PLANT?

Mr. Buist's Catalogue.

WELL prepared catalogue of trees, with information such as an experienced nurseryman is capable of giving, if he inclines to embody his acquired knowledge, we always welcome. It is a task to make such an one, and we are disposed to give due credit to the maker when we find his information reliable. Such, in the main, is "A Descriptive Catalogue of Hardy Trees and Shrubs, grown and for sale by Robert Buist, Rosedale Nurseries, Darby Road, near Philadelphia." Since the breaking-up of the old Landreth Nurseries, in this neighborhood, Philadelphia has presented fewer extensive establishments where trees in large quantities could be purchased than would seem to be her proportion; but land has become so dear

in our vicinity, that nurserymen have been obliged to remove to some distance, where ground was more reasonable, and they are distributed near to the neighboring towns and villages, such as Westchester, J. L. Darlington & Co.; near Norristown, Montgomery County, Pa., Alan W. Corson; Woodbury, N. J., David J. Griseom; Germantown, Thomas Meehan, William Saunders, John Bright, Messrs. Maupay, Bowman, &c.; Elizabethtown, N. J., Wm. Reid; Marcus Hook, Pa., D. Fulton; near Burlington, N. J., George Deacon; Hightstown, N. J., Isaac Pullen; Falls of Schuylkill, Pa., David Ferguson. Several other establishments are growing up, and promise, ere long, to have a supply that will keep us by no means in the rear, in this respect. Meantime, we shall make Mr. Buist's *Catalogue* the text for a few remarks.

The Evergreens are the first, and Mr. B.'s list is a highly interesting one. The following, from the Introduction, is excellent; the difficulty generally is to induce the planter, or his successor, to cut away a fine tree, to make room for better growth:—

"We must observe that nearly all planters of coniferous Evergreens make the same fatal error in planting the margins of walks, carriage-roads, and drives. Trees are generally small when procured from the nursery, and they are at once planted about three to six feet from the edge of an entrance in place of twenty feet. Where an approach is required to be belted with Pines or Spruce, the ground should be well prepared, at least twenty feet from the edge of the drive; and any quick-growing tree, such as Silver Maple, planted close to the verge, to give shade or shelter. When the Evergreens have attained the height of fifteen or twenty feet, the Maples can be dispensed with, and removed to some boundary, or destroyed. Some may think this a tedious process, but it is the best and most permanent for having an approach to a mansion worthy of a name, and it will be a permanent memento of the planter to all eyes of taste."

Nothing could be better than the above advice. We have seen recently many examples where the newly planted trees have encroached upon walks and drives, after four or five years' planting. It is difficult, we know by experience, to look upon the little trees of three or four feet height as towering monarchs, and this is one of the points which requires the experience of a landscape-gardener, or of a man of some forethought.

Commencing on page 1, it may prove a useful service to many about to plant, if we insert Mr. Buist's remarks on the several species of Evergreens which he has for sale:—

"Trees and Shrubs can be removed from October to April, whilst the ground is open. The

roots of trees should never be exposed to the air after arrival. They should be watered and placed in the earth at once till properly planted.

"*Abies*, the Spruce Fir. All the species are ornamental, and many are useful as timber-trees. They grow in dry, elevated, rich soils, though some will do well in rich, moist valleys, in the vicinity of water, or in the midst of rocks. Their diversity of growth is excessive. We have had *Pygmaea* twenty years, and it does not exceed three feet, whilst we have had *Excelsa* to grow as much in one year.

"*Araucaria*, a genus of remarkable trees, natives of the Southern Hemisphere, all of majestic growth, attaining the height of over 100 feet. We fear that none of them will be generally hardy here, but, in Southern latitudes, they grow freely in sandy, rich soil, with a dry bottom.

"*Berberis*, Berberry. Some of the species of this genus have been raised to a new genus, *Mahonia*, by botanists. We adhere to the original name for all. They are pretty dwarf shrubs, with shining foliage of various forms, and all pleasing. All have yellow flowers.

"*Buxus*, Box-Tree, principally natives of the East, where they are much used in formal gardening, as they may be trimmed into every imaginable shape. They like rich, deep, loamy soil, and succeed well in shady situations.

"*Cedrus*. To this family belongs the celebrated tree of Mount Lebanon. They all delight in rich, sandy soil, with a dry bottom; being natives of mountains, they are impatient of their roots being saturated at any period of the year. They are all trees of a gigantic habit, with a grandeur that excites universal admiration; growth from 60 to 140 feet.

"*Cephalotaxus*, Japan Yew-Tree. This valuable addition to our evergreen Conifers is one of the discoveries of R. Fortune, in his enterprising travels in Japan and China. The species which bears his name, the only individual yet known to us, is a shrub of pleasing habit, and likely to become popular when a little more common; at present, the supply is rather limited to make it available to the general purchaser. *Fortunii*, Fortune's yew.

"*Cerasus*, the Laurel Bird Cherry. An indispensable family to the landscape, or the most humble gardener who has any pretensions to taste. It is the universal favorite of all Europe; but, strange to say, the species are not perfectly hardy here, though south of Baltimore they grow luxuriantly. They are all shrubs of from four to fifteen feet high.

"*Cotoneaster*, dwarf shrubs of procumbent habit, much used in covering rockwork or low walls; small foliage; white flowers, succeeded by scarlet berries, that are as brilliant as garnets during winter.

"*Cryptomeria*, Japan Cedar, a new tree of very distinct habit, from the mountains of Japan; it delights in moist, rich soils; of pyramidal form, with drooping branchlets; perfectly hardy, and grows rapidly, two to four feet in a season: if planted in a poor soil, the foliage has a brown, stunted appearance."

As regards the *Cryptomeria*, we have doubts in recommending it even as far north as Philadelphia, and we would make the same remark regarding *Deodara*; it has, in some favored situations, stood well in our neighborhood, but, generally speaking, it has proved a failure; there may be, and probably is, much in what Mr. Buist says regarding a moist, rich soil for the *Cryptomeria*, and situation and aspect will have much to do with it, probably. Our native Cedars were everywhere extremely injured by the winter of 1855, and we must not abandon these two beautiful Evergreens without further trial. *Cupressus funebris* has not proved hardy with us, and the others require further trial.

"*Cupressus*, Evergreen Cypress. It is but very recently that we have been enabled to introduce this family amongst our hardy Evergreens. They appear to be natives of all parts of the globe, and recent introductions render them very interesting shrubs to the planter. They are best planted on lawns, or as single specimens in the shrubbery, or on the margin of walks. They attain considerable height, and will grow in any good soil.

"*Cunninghamia*, *sinensis* or *lanceolata*, approaches *Araucaria Braziliensis* in appearance, but more hardy; requires light, rich soil, and will grow thirty feet high; *scarce*.

"*Eleagnus hortensis*, Silvery Oleaster, a rather tender shrub for this latitude.

"*Eriobotrya japonica*, Loquat. A small tree, with large foliage, nearly equal to the *Magnolia*, producing a fruit, in the winter season, very similar to an Apricot; grows well in the Southern States.

"*Escallonia*, dwarf shrubs, with rosy red flowers; very desirable for Southern latitudes."

(To be continued.)

EDITORS TABLE

AD-INTERIM REPORT.—The *ad-interim* report from the Committee of the American Pomological Society, will be found of the highest interest. The new fruits ripened the past season, have undergone the scrutiny of the Committee, and they give their unbiassed opinions in a manner highly satisfactory; their labors will attract the attention of all persons interested in these important topics.

The length of the above report has prevented the insertion, this month, of "Visits to Country Places, around Newport;" Mr. Chorlton's excellent article on "Peas" supersedes one of the "Old Digger's" on the same subject, and contains later information as to kinds to be selected for growth. The interesting biography of Loudon being concluded in the present number, we shall have more space in our next to devote to our correspondents.

MEMOIR OF LOUDON.—This graceful memoir is concluded in the present number, and doubtless has interested most of our readers. Mr. Loudon's career was a most useful one; in respect to its close, it resembled Sir Walter Scott's; he was ruined pecuniarily, however, by his own publication of the great work, the *Arboretum et Fruticetum Britannicum*, which was issued, on his own account, at an outlay of fifty thousand dollars; but it sold so well, that only thirteen thousand remained to be paid at the end of 1841, and he died in 1843. The work has since sold extensively, and his debts were paid.

In industry, Mr. Loudon will compare favorably with Sir Walter; he had four periodicals, viz: *The Gardener's*, *Natural History*, and *Architectural Magazines*, and the *Arboretum*, which was published in monthly numbers, going on at the same time, and, to produce these at the proper time, he literally worked night and day, suffering much pain, and writing with two fingers of his left hand. Never did any man possess more energy and determination; whatever he began he pursued with enthusiasm, and carried out, notwithstanding obstacles that would have discouraged any ordinary person.

His labors as a landscape-gardener are too numerous to be detailed, but he always considered the most important was laying out the arboretum so nobly presented by Joseph Strutt, M. P., to the town of Derby.

THE ADVERTISING SHEET.—Nothing marks the increased influence of the *Horticulturist* more than the demand for space in its advertising sheet; it seems likely to exceed, in extent of pages, the work itself. The present month's issue is an interesting resumé of the business of the country, north, south, east, and west, which will command attention. The printer has been curious enough to sum up the number of trees and shrubs in the thirty-four pages that have passed under his critical eye, and finds them to amount to two million and upwards, independent of those without enumeration of the quantity.

The importance of concentrating in one journal the whole advertising of this extensive and flourishing business must be apparent; we receive incidentally from correspondents the strongest evidence of its value to both buyer and seller, and were we at all disposed to be jealous, might take exception to remarks which indicate that it is the first part to be

read. The publisher will give increased attention to this department, as the circulation increases, and as he is enabled to spread this information before the purchasers, he may be obliged to increase his charges to prevent the advertising from exceeding the limits of the post-office regulations. The 20th of the month is now rather late.

CALENDAR OF THE VINEYARD.—We add, by the kindness and knowledge of R. Buchanan, Esq., of Cincinnati, a Calendar of the operations in the vineyard, which is not only a new feature, but a most valuable one. Coming as it does from the vicinage of the vineyards, and penned by one of the most intelligent and observant of the cultivators of the vine, and an esteemed writer upon it, we feel much pleased in presenting such results to our readers.

THE ILLINOIS STATE HORTICULTURAL SOCIETY has organized in the right spirit, and discussions on fruit have been held at Decatur—E. S. Hull, President, J. E. Starr, Recording Secretary. This Society will be extremely useful, and we shall be pleased to receive its reports.

PEARS AGAIN.—We had hoped to have got rid of the subject of "Pears on the Quince," leaving them to the test of time, but a cogent reply of Dr. Ward to Mr. Field's article in last number, will require insertion at our hands, and, if we possibly can find room, shall appear next month.

THE COLD OF JANUARY has been even more severe than during the previous winter, and has, we fear, again done injury to fruit and other trees. The snow, however, proved a protection to wheat, and, to some extent, to plants and even trees. The cold "cycle" which has been upon us, it may be hoped, has reached its maximum. In this region, thermometers exhibited various degrees of cold from 20° below zero to 6° at the same time, and at not greater distances than a mile or two apart, proving that there are eddies of cold air not entirely influenced by elevation. It is believed, the intensity of cold has been as great as any of the same duration during the settlement of the country. Skaters have had their amusement at New Orleans, and in much of the southern country there has been great suffering, while, at the north and northwest, it has been intolerable; thermometers at 40° below zero are so often reported as not to be chronicable, and we are obliged to leave that matter to some accurate meteorologists.

FRUIT IN CANADA.—In looking over the December number of the *Horticulturist*, I saw an article—written by Cockburn and Brown, of Montreal—speaking of the apple-tree being killed down; they say it is a thing almost unknown with them. I find it one of the worst things to contend with. Losing the terminal bud causes a crook at every year's growth, which injures the looks of our trees very much. And another thing we have to contend with—the heaving up of trees in the spring. In the nursery row we can manage them very well, by furrowing up in the fall, but seedlings are difficult to manage. I am aware that draining has a great deal to do with it. Perhaps Mr. Brown, or some other gentleman, will give some information, through the *Horticulturist*, touching this matter. He speaks rather unfavorably of the Early Harvest and the Baldwin. I am happy to say, that those two famous apples are the most hardy we have here on the northern shores of Lake Ontario; as for the Fameuse and St. Lawrence, they are very productive; Burrasso, rather a poor keeper; Keswick Codlin, very hardy, and comes into bearing first of all; Hawthorndon, a great bearer; Alexander, a fine grower; Read Astrachan, promises well; R. I. Greening, a straggling grower, but makes a fine tree; Ribston Pippin, a fine grower, and one of our most profitable apples; Northern Spy, I could not recommend for general cultivation; Fall Pippin, Spice Sweet, Talman Sweet, and Gravenstein, are among our very best apples.

Plums. We have a difficulty in budding the stock on account of the blight, and we have the black rot to contend with, and the little Turk, the curculio.

Cherries suffered very much by the hard winter or spring, especially the Heart kinds.

B. LOSER, Nurseryman.

Cobourg, Canada West.

A NEW FRUIT.—Hooker's *Journal of Botany* describes a new fruit—the *Durian of Borneo*—thus: "The Durian is a fruit of which we hear little, where all praise is given to the Mangosteen, while the Durian is generally mentioned as a fruit much liked by natives, but whose offensive smell renders it disagreeable to Europeans. There is, however, no comparison between them; the Mangosteen resembles a peach or a grape, and can hardly be said to be superior, if equal, to either: the Durian, on the other hand, is a fruit of a perfectly unique character: we have nothing with which it can be compared, and it is therefore the more difficult to judge whether it is or is not superior to all other fruits. The Durian grows on a large and lofty forest-tree, something resembling an elm in character, but with a more smooth and scaly bark. The fruit is round, or slightly oval, about the size of a small melon, of a green color, and covered with strong spines, the bases of which touch each other, and are consequently somewhat hexagonal, while the points are very strong and sharp. It is so completely armed, that, if the stalk is broken off, it is a difficult matter to lift one from the ground. The outer rind is so thick and tough, that, from whatever height it may fall, it is never broken. From the base to the apex, five very faint lines may be traced, over which the spines somewhat curve and approximate; these are the sutures of the carpels, and show where the fruit may be opened with a heavy knife and a strong hand. The five cells are silky-white within, and are filled with a mass of firm, cream-colored pulp, containing about three seeds each. This pulp is the eatable part, and its consistence and flavor are indescribable. A rich custard, highly flavored with almonds, gives the best general idea of it, but there are occasional wafts of flavor that call to mind cream-cheese, onion-sauce, sherry-wine, and other incongruous dishes. Then there is a rich glutinous smoothness in the pulp which nothing else possesses, but which adds to its delicacy. It is neither acid, nor sweet, nor juicy; yet it wants neither of these qualities, for it is in itself perfect. It produces no nausea or other bad effect, and the more you eat of it the less you feel inclined to stop. In fact, to eat Durians is a new sensation worth a voyage to the East to experience. The smell of the ripe fruit is certainly at first disagreeable, though less so when it has newly fallen from the tree; for the moment it is ripe it falls of itself, and the only way to eat Durians in perfection, is to get them as they fall."

MUSHROOMS.—These valuable esculents may be propagated with greater advantage than by the old mode; the spawn may be broken fine, the largest bits not exceeding a marble in size. Thus prepared, sow it over the surface of the bed, and beat it down at once firmly, and cover it with soil. This plan will require but half the quantity of spawn, and the mushrooms are diffused over the whole surface, no loss being sustained in gathering. They produce sooner by this mode. We have had good success, the present winter, with spawn obtained from the Messrs. Thorburn, N. Y., after failing utterly with that from others.

NUTS AND SEEDS.—A large Christmas box was carried out, from this region, by the Persia, which will be gratefully received by Sir William Hooker, at Kew Gardens, near London. They are a present from Dr. Darlington, and consist of nuts and seeds of our forest-trees, collected by Joshua Hoopes, Esq., at the request of Sir William. Last May, the doctor sent three boxes containing sections of our forest-trees and shrubs, each section a foot in length. These interchanges of value are highly interesting mementos, and serviceable in

the highest degree. Our botanical friend has lately received Dr. Bromfield's *Flora of the Isle of Wight*, a very complete and interesting work, which frequently mentions the *Flora Cestrica* of the recipient. Dr. Bromfield recently died, during his oriental tour, at Damascus.

PEABODY'S SEEDLING STRAWBERRY is now ready to be sent out. Mr. P. requests his subscribers to inform him when they wish to receive the plants. Address Charles A. Peabody, Columbus, Georgia.

THE Soci t  R gionale d'Acclimation of Nancy, have issued a curious pamphlet entitled "Une Pr cieuse Conqu te   Faire," in which they earnestly recommend farmers to breed horses for human food!

The *Journal of the United States Agricultural Society* for 1856, contains matter of great interest.—We trust it will be in the hands of all interested in the topics discussed, and can only point to a few of the matters it contains, hoping thereby to call attention to them. The "Relations of Meteorology to Agriculture," and Lieut. Maury's remarks, are especially worthy of perusal. Townsend Glover's paper on "Entomology as applied to Agriculture," will be read with deep interest and profit. The "True Value of Chemical Analysis of Soils," by Dr. John D. Easter, every farmer should study; that on "Colza Oil," by Dr. Ware, demands further experiment, as promising profit from the cultivation of this plant. The "President's Addresses," and some of those of members and guests, may be read with profit. Altogether, this volume exhibits a spirit of investigation and progress highly creditable to our country and countrymen. The attendance exceeded, in numbers, any meeting of the kind. Louisville, Kentucky, is to be the place of holding the next meeting, and we consider this a judicious selection.

TRAVELLERS.—The *Gardener's Chronicle* regrets, with many others, that the missionary, Livingstone, who has spent sixteen weary years in exploring Africa, should have been totally ignorant of botany and gardening. He has made some sad mistakes in attempting to give information, and thus thrown discredit on what may be true. This want of education is deeply to be regretted in many travellers. For instance, pleasant as Bayard Taylor's books of travel may be, he appears never to have had his attention turned to distinguishing one tree from another, and we read of countries of the highest botanical interest with scarcely an allusion to the vegetation that can be understood. Children's gardens, and a little knowledge infused at school, should be attended to.

Flore des Serres.—The three last numbers of this journal, unrivalled for the beauty of its illustrations, contain figures of the following new plants superbly drawn and colored: *L lia purpurata*; *Dir ea blassii*; *Mandevillea suaveolens*; *Dendrobium bigibbum*; *Correa cardinalis*; *Pentapterygium flavum*; *Primula rosea*; *Salvia Boliviana*; *Bulbocodium verum*; *Dianthus sinensis*, varieties; *Wistaria frutescens*, var. *Magnifica*—quite an acquisition; *Barbacenia hybrides*; *Colchicum variegatum*; *Salvia splendens*, var. *Soucheti*; *Thalictrum aneminoide*, var. *flore pleno*; *Fuchsia*, var. *Rosea*; *Azalea Indica*, var. *Beaut  d'Europe*; *Cypripedium purpuratum*; *Hibiscus marmoratus*; *Tropeolum azureum grandiflorum*; Pansies, Imperatrice Eug nie and Leonidas; *Stenanthera pinifolia*; and *Ichora Warszewiczii*. We wish we could impart all of their beauty to these pages.

Of the new *Wistaria frutescens*, var. *Magnifica*, the *Flore* says: "For more than a century before the introduction of the *Glycine* of China, Europe possessed the American species, now named *Wistaria frutescens*, of which the present is a hybrid variety, raised from seed by M. Delaville, Sen., gardener near Clermont (Oise). The flowers are borne in graceful clusters, of a pale lilac, with a yellow spot. It is said to exceed others in the abundance

of its bloom, which makes its appearance towards the close of June. The readiest method of propagating it is by grafting."

GOSSTR.—The spores of some of the fungi are said to be omnipresent, and so numerous are they, that Fries calculated more than 10,000,000 to be present in a single individual of the *Lyceperdon* of large size. Bauer estimated that 7,840,000, not of the sporules, but of the individual plants themselves, belonging to the common snout—the *Uredo Sagittum*—would be required to cover a square inch. Dr. Daubeny, of England, and Dr. Mitchell, of Philadelphia, have written papers of much research, to prove that fungi are the cause of cholera and numerous diseases.—Some species of lichens are extensively collected, to make dye-stuffs; culbear, a well-known article of commerce, is prepared from lichens collected by the peasantry in various parts of Europe.—The horseradish-tree of the West Indies—*Moringa*—attains the height of twenty-four feet in nine months, and that in a stony, poor soil. The power of vegetation within the tropics, is illustrated by the above as well as by the growth of the bamboo, which sometimes shoots fourteen inches in the course of twenty-four hours. The extraordinary productiveness of the tropics, is by many considered an inestimable advantage, but the counterbalancing evil is the astonishing growth of the weeds. The poet may sing

"Of the redundant growth
Of vines and maize, and bower, and brake,
Which nature, kind to sloth,
And scarce solicited by human toil,
Pours from the riches of the teeming soil,"

but the planter finds that nowhere is more care and industry required than within the tropics, to make agriculture profitable. The weeds exhaust and smother everything that is not frequently attended to.—Why is it? Our government land costs one dollar an acre on an average, and champagne two dollars a bottle. How many a man dies landless, who, during his life, has swallowed a township—trees and all.—Captain Pope, who was in command of the expedition to dig artesian wells in Texas, reports a novel source of fuel, in the roots of the mesquit, which are found preserved beneath the soil—perfectly sound and hard—extending sometimes to the incredible depth of seventy feet!—The sales of the land on draining the Lake of Haarlem, produced sufficient money to repay all the expenses incurred. Sixteen years of labor and care were exhausted before the work was completed. As soon as the grounds were dry, they were covered spontaneously with a multitude of plants, reeds, and willows; these prevented walking, being soon higher than a man. A heavy roller was passed over the brittle plants after the willows are pulled up, and the fallen stems covered with the earth taken from the ditches, and rape-seed was immediately sown; the rape overpowers the next growth, and the land is then ready for grain. After harvest, they work with large wooden shoes on the horses' feet, when the soil is yet too soft. If the horses sink, they leave them on the spot.—Though the Berberries are commonly treated as shrubs, some of them may be formed into the most beautiful and durable small trees that can be introduced into gardenesque scenery. The common berberry, when pruned up to a single stem to the height of eight or ten feet, and all suckers from the root, and all side buds from the stem removed at the moment they appear, will form a fine orbicular head, with the extremity of the branches drooping; and this pendulous appearance will increase with the age of the tree. Such a tree, covered, as it will be, every year, with yellow blossoms and scarlet fruit, may rank, in beauty and value, with the handsomest. The low-growing berberries—now mahonias—are very beautiful in masses. The common berberry, trained as above, will reach the height of thirty feet, and endure for centuries. In a catalogue for 1825, the now common *Mahonia aquifolium* is priced at twenty-five dollars!—The best plan to forward cut flowers to a distance without injury, is to prepare a cylinder of tin

three or four feet in length, and eight or nine inches in diameter. In the centre of this, place a tin tube, of an inch in diameter, which fits into sockets in the bottom and the lid. Round this tube the flowers are tied, and it is inserted in the bottom; the centre tube is now filled with water, and corked, and the lid put on, in which is the socket which embraces the tube. The case may now be sent to any distance, the natural moisture and the water keeping the flowers cool and fresh. A little damp moss, tied under the flowers, will assist this.

Waukesha, Wisconsin, Jan., 1857.

WISCONSIN FRUIT GROWERS' ASSOCIATION.—The annual meeting of this Association was held, at Waukesha, on the 14th Jan. The attendance was good, though not large. Some interesting discussions were held. Among resolutions passed, was one in favor of a law for the punishment of stealing *growing* fruit, similar to that of Massachusetts. A meeting for the exhibition of small fruits and flowers was appointed for the last of June, at Whitewater. The fall exhibition will be merged with that of the Northwest Fruit Growers' Association at Milwaukee, in September next. The faith and hope of fruit growers in the Northwest, have been sorely tried in the destruction of our trees the past winter—whole orchards, in some instances, being entirely destroyed, while, in others, "the many were taken, and the few left." Occasionally, an orchard escaped with little or no injury. Generally, fruit-trees have made but moderate growth the past summer; there seemed to be a struggle for life and health, which, in many instances, yielded at last to death, while the tree was loaded with flowers or fruit.

This winter we regard as favorable for the ultimate recovery of the merely injured trees which struggled sickly and weak through the summer, yet determined to live. Snow fell early in December, before hard freezing, to which more has been added from time to time.

H.

Officers of Wisconsin Fruit Growers' Association for 1857.—President—CHARLES GIFFORD, of Milwaukee. Vice-Presidents—Col. H. CROCKER, of Milwaukee; G. KINNEY, of Whitewater; H. T. WOODWARD, of Beloit. Recording Secretary—ANDREW CHILD, of Delafield. Corresponding Secretary—CHARLES COLBY, of Janesville. Treasurer—C. C. OLIN, of Waukesha.

Executive Committee.—J. C. BRAYTON, of Aztalan; H. I. STARIN, of Whitewater; A. G. HANFORD, of Waukesha.

DEXTER SNOW'S VERBENAS.—The catalogue for 1857 of Dexter Snow, Chicopee, Mass., is one of the neatest things of the kind we have seen. Cultivating the verbenas only, he has given a complete treatise on his particular favorite which all admirers of this beautiful plant should possess and study. His plan of doing business is direct and understandable. He will send by mail, or in boxes by express, and will fill several orders from the same town to save cost of carriage; his prices are moderate, his plants the newest and best.

Mr. Snow has inaugurated a new era in plant growing, and we take pleasure in making it known. (See Advertisement.)

THE ORANGE RASPBERRY.—As an additional recommendation of Dr. Brincklé's Orange Raspberry, now generally sought for, we have our own, and the testimony of others, that in the form of a jam it retains more thoroughly its delightful flavor than other varieties; it has, in fact, the raspberry taste in perfection.

CATALOGUES, &c., RECEIVED.—Catalogue des Cultures de l'Etablissement Horticole de Claude Sahut, à Montpellier, France, 1856-57. Mr. Sahut is extensively engaged in arboriculture and the seed business, and would be pleased to increase his connections with America.

A. Frost & Co., Rochester, N. Y., have issued three catalogues in very handsome style.

No. 1, Descriptive Catalogue of Fruits; No. 2, of Roses and Ornamental Trees; and No. 3, Dahlias, Verbenas, Fuchsias, &c. These "Genesee Valley Nurseries," among the largest in the Union, seem to be not only prosperous, but to be controlled by students and readers.

Catalogues of Select Vegetable, and another of Annual, &c., Flower Seeds, sold by Alfred Bridgman, 874 Broadway, New York, embrace all the varieties of each.

The Rural Annual and Horticultural Directory—from the office of the *Genesee Farmer*—by Joseph Harris. An excellent and reliable, as well as handsome manual, with profuse illustrations.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, Vines, &c., cultivated and for sale by John W. Adams, Portland, Maine. A capital catalogue in all respects.

Special Select Catalogue for 1857 of Fruit and Ornamental Trees, &c. Wm. F. Smith.

Rose Cottage Nurseries, late, Tobin's, Augusta, Georgia. Oh! for your climate!

H. A. Dreer's Descriptive Catalogue of Garden and Flower Seeds, Implements, Books, &c., 117 Chestnut Street, near Fourth, Philadelphia. This will be found to be a very useful catalogue, containing a variety of information and instruction.

R. Buist's Select Catalogue of Greenhouse, Hothouse, and Hardy Plants, Philadelphia. Few catalogues issued in this country, have contained the variety of plants here offered for sale at moderate prices. If it were only for the beauty of the typography and engravings, it is worth possessing, but such a list is valuable to turn to at all times. May be had by inclosing a stamp. It contains directions for culture.

Lincoln and Welland Horticultural and Mechanical Society's Circular, setting forth the benefits to be derived from the Association.



ORNAMENTAL FLOWER-STAND. — The annexed figure represents a design for an ornamental flower-stand, to be made of wire, which we commend to workers in this material. Where a greenhouse is well-managed, there will be no difficulty in furnishing it with a succession of camellias, roses, geraniums, fuchsias, azaleas, calceolarias, &c. &c., and it should be the aim of the possessor to preserve the brightness of the scene all through the year. The moment a plant goes out of bloom, it should be removed, and its place supplied with another; for, as to rearing plants in such situations, and in dry rooms, it is wasting one of the best opportunities which art affords us for a display of successive pictures. As well might the actors dress and rehearse before the audience, as a collection of plants be allowed to present themselves in all their preparatory stages to the eye of the visitor or the host. We do not mean by this, to prevent the window culture which gives many so much pleasure.

WASHINGTON, D. C.

DEAR SIR: I thought of you, to-day, when I received from the Professor of Chemistry of Georgetown College, a great and valuable vegetable curiosity—the greatest, perhaps, in America, in the shape of an enormous Truffle found in Virginia. I showed it to Mr. Mason,

Commissioner of Patents, and produced quite a sensation, as they had published in their report for 1854 only an account of the Piedmontese truffles, not dreaming that they existed so close at hand. We may now hope to have Strasburg pies as soon as some American makes the *fois gras*. My Virginia Truffle weighs one pound eleven ounces, dried, giving double that weight green. It would have sold, in Covent Garden Market, for nine dollars!

[A similar report was circulated some years ago, to the effect that one of the foreign ambassadors at Washington had discovered the Truffle in Virginia, but it was never till now followed by a verification. It has been generally believed that this delicious esculent was not cultivable; more recent information leads us to believe that, like the mushroom, it may be artificially propagated; Dr. Lindley says so; and a Frenchman has lately asserted, without sufficient data, that the Truffle is the result of the stinging of roots of oak-trees by the Truffle fly, which Dr. Lindley denies. We shall probably know more of this ere long.—Ed.]

ANSWERS TO CORRESPONDENTS.—We never object to answering the queries of correspondents, provided they do not require too long a reply, and that they are on topics of general interest, or such as are not readily found in books:—

“The sages say, *Dame Truth* delights to dwell—
Strange mansion!—in the bottom of a well:
Questions are then the windlass and the rope
That pull the grave old gentlewoman up.”

As we have got to rhyming, we answer “Betsy W.” by saying that she is doing a service by culling from the entire works of Shakspeare his allusions to botanical matters. His felicity in this is as extraordinary as his other apparently intuitive knowledge. The process, now so common, of changing the character of seedling-trees, is thus expressed in his *Winter's Tale*, Act 4:—

“— You see, we marry
A gentler *scion* to the wildest *stock*;
And make conceive a bark of baser kind
By bud of nobler race. This is an art
Which does mend nature—change it rather: but
The art itself is nature.”

(D. W. RAY). Your excellent notice of the Rebecca Grape is superseded by former notices and the official one, in the present number, from the Committee of the Pomological Society. We shall be glad to hear from you again.

(WM. H. ALEXANDER). We shall be pleased to hear from you.

(H. A. MISH, Harrisburg, Pa.) Tan is an excellent covering for strawberries, both as a manure and a mulch. It should be well spent—say a year from the vat. *New tan* has proved destructive in many instances. It has not been found of service to any other crop.

Don't plant “cuttings, small evergreens, and seedlings,” in weedy ground. If you will, depend rather on the hoe and the rake as “weed smotherers.”

Sawdust is a superior article to throw amongst raspberries; but useless, in that form, for any other purpose. If you could char it easily, and throw it into the soakings of your dung-yard, it would probably be the best thing you could do with it. Leather chippings from shoemakers' shops, saddlers', &c., make an admirable mulch for the raspberry, and may often be had for the asking.

BEST GRAPES FOR A VINERY.—The following list of grapes for a vinery may be relied on, and in this mode we answer many inquirers. The present season will no doubt add the Bowood Muscat and Golden Hamburg, which are to be dispersed in England this spring, and are spoken of as most valuable, of the highest grade of *beauty*, and “best.” At present, our list is as follows:—

Best Grapes.—Muscat, of Alexandria; Black Hamburg; Royal Muscadine or Fontainbleu; McCready's Early White Pitnaston; Chasselas Musqué (this Grape is apt to crack, but, in every other respect, among the "best"); Purple Chasselas; Black Prince; Black St. Peters; Decans superb; Grizzly Frontignan.

For Curiosity.—De la Palestine.

For Show and Beauty.—Purple Damascus; Reine de Nice; Flame-colored Tokay; White Nice; Syrian.

To this list many would add Black Morocco, but, without fire-heat, it is a bad setter.

If we could cultivate only one grape, it would be *Black Hamburg*. If three—Black Hamburg, Muscat of Alexandria, Fontainbleu or Royal Muscadine. The Muscat of Alexandria, only with fire-heat, and, without it, White Frontignan.

Best Peaches for an Orchard-House.—The four best Peaches for your orchard-house are the following: Early York (serrated leaf); George IV.; Grosse Mignonne; Late Red Rare Ripe. The best eight will include the above, and the addition of the four following: Matta; Noblesse; Teton de Venus; and Heath Cling. If you object to a cling, omit the last, and replace by a free-stone.

(M. C. K. HUDSON, Ohio.) The "Egyptian Bean" sent is unknown to us, and we should suppose it valuable.

McMahon's Book on Gardening, we regret to learn, is out of print; the eleventh edition will be put to press immediately.

W. F. BASSETT, W. GROOM, and half a dozen subscribers, answers crowded out.

INTERMIXTURE OF SEEDS.—(B. C. C., Wyoming.) Different *varieties* of melon, cabbage, cauliflower, turnip, &c., readily mix when growing even several hundred feet apart. Peas do not mix so readily, because the structure of the flower prevents any other pollen than its own from coming easily in contact with the stigma; *species* mix with more difficulty—seldom, indeed, without artificial aid. Cucumbers, melons, squashes, &c., may therefore be grown tolerably near together, without great danger of intermixture. Ruta Bagas, and white turnips, cabbages, and cauliflowers, not.

(SUSAN.) Verbenas, well taken care of, you will find the best plants for your vases. Mr. G. C. Thorburn's new variety will make a showy exhibition all the season. Also Lobelias.

BLUE ROT IN PLUMS.—J. D. L., of Aiken, S. C., asks of pomologists to give some information relative to the blue rot in plums, which worries his fruit more than the curculio. He also wants to know if any reason can be assigned why some plum-trees, probably the General Hand, which are eleven years planted, strong and thrifty, seldom bear, while other varieties have plentiful crops?

(ASA THOMAS.) The Manchineel tree (*Hippomane mancinella*) attains a large size on the sea-coasts of the West Indies and our own continent, being common at Key West, where it is found of the height of thirty or forty feet. It has the aspect of the pear-tree at a distance, while the fruit resembles, in appearance and scent, a small apple, which has deceived your correspondent. The abundance of the fruit is so great, that the ground appears to be paved with them. They possess very little pulp, the interior being occupied by a deeply grooved nut as large as a chestnut. No animals, except goats, and, of birds, the maccaw, choose to feed on them, and they become brown, dry, and spongy, and as useless as they are deleterious. The juice of the tree is poisonous. Catesby was blind for some days in consequence of getting it in his eyes. It is said sleeping under the tree is fatal; oily substances are the best remedy for this poison. The poisonous Upas approaches nearer to the anomalous manchineel than to any plant of the Autocarpeæ. The seeds, formerly so much employed for buttons in England, are the produce of the soapberry-tree, *sapindus saponaria*,

of the West Indies, which produces soap, as does an exclusively American tree, *S. marginatus*, which is found on the coast of Georgia and Florida, and, in the interior, as far as Arkansas. The berries are about the size of a cherry. The soap is found in the fleshy pulp of the berries, and also in the root, but, if it is used too frequently, and of too great strength, it is apt to burn and injure the texture of the cloth.

APPLES.—DEAR SIR: I hereby send you, per express, two specimens of two new varieties of the apple. First, the *Rome Beauty*. Its diameter is four and two-thirds inches, weight, fourteen ounces, and keeps until May and June; is a prolific bearer, and blossoms from ten to fifteen days later than other varieties in its vicinity. They have succeeded as far south as New Orleans, and as far north as Columbus, Ohio. It is a rapid grower, and an early bearer.

Second—*Crawford Keeper*. Origin, seedling; weight, nine ounces; keeps until August. Remains sound and hard all winter and spring, and never loses its flavor. The tree is a large, heavy grower, requiring to be set forty feet apart, owing to its massive form. The original tree now living, aged twenty-five years. At fourteen years from bearing, there was picked from it, in 1855, fifty-seven bushels of good merchantable apples. This being a very hardy apple, will undoubtedly succeed well as far north as Maine and the Canadas. Both these varieties originated near Burlington, Lawrence County, Ohio—the extreme southern part of the State—and are largely cultivated, with abundant success.

Yours, respectfully, J. E. Wood.

Iron Furnaces P. O., Scioto County, Ohio.

324 WALNUT STREET, Dec. 8, 1856.

DEAR SIR: I send you a China quince (*Cydonia sinensis*) which grew at Columbus, Georgia. The tree is some eighteen or twenty feet in height, and was, within a few days, loaded with fruit. I understand that the plant was obtained in the West Indies. It grows well at Columbus, requiring no protection, in the open air.

M. Lorseleur Deslongchamps, in the *Dict. des Sci. Nat.*, under the article "Coignassier," says this quince attains a height of fifteen to twenty feet. The blossoms are eighteen or twenty lines in breadth, and of a fine rose color. It was introduced in Holland at the close of the last century, and has been in France since 1802, fruiting for the first time in the *Jardin du Roi*, in 1811. It was hardy at Paris, growing in the open air in that city. M. Deslongchamps considers it a good fruit.

Your obedient servant, C. D. MEIGS.

J. J. SMITH, Esq.

This fine specimen measured eleven and a half inches, in circumference, by fourteen and one-fourth inches, and its weight was one pound and a quarter. It is the fruit of the flowering quince, *Cydonia Japonica*, grown here for the beauty of its bloom, the fruit being with us utterly worthless, and so hard, as to be turned in a lathe. Dr. M.'s specimen looks so tempting, that we have little doubt it would make a good jelly. The difference of the Georgia climate from that of Pennsylvania, is very marked in this fruit.

J. JAY SMITH, Esq.: *Potatoes* are now treated to a drying process; they are first deprived of their skins, and properly prepared, fresh currents of air moved in contact with the potato pulp by machinery. The material is made to take the shape of tubes, macaroni fashion, and, when dry, is broken in a proper mill into the form of what is called "samp," or hominy; it has lost nothing but water, and being placed in tin canisters, the weight of four pounds is reduced to one, and it is ready for long voyages or travels, retaining all its taste and virtues as well or better than ship crackers. The manufacture is in Hinesburg,

VERMONT.

TO NURSERYMEN.—Attention is called to the advertisement of G. B. Cheney, of an old established nursery for sale, which we are assured offers a good opportunity for an investment.

Boston, 15th of December, 1856.

J. J. SMITH, Esq., Phila.—DEAR SIR: I have just had the pleasure to receive the last number of the *Horticulturist*—a pleasure and privilege I have enjoyed monthly, from its commencement in July, 1846, and I take the liberty of an old subscriber to ask your attention to a want which is already seriously felt, viz: a general index to the past volumes. A work so eminently practical, and containing such a vast amount of valuable information, becomes a book of reference, and there are few books in my own library so much used in this way. I am sure not a week passed, in the last year, in which I have not had occasion to look over the ten indexes of the first ten volumes. This labor becomes appalling in prospect of the success which seems to be attending your able conduct of the work, and which guarantees a long continuance of my monthly enjoyment. I find that this feeling is common to many of my friends, and am induced to believe that a general index of the first ten volumes would meet with a very ready sale, at a remunerative price. A periodical index at the close of each ten volumes, would give a permanent character and value to the journal, as if it were an elaborated treatise which would be otherwise incompatible with its periodical and descriptive form. As the labor would be of collation only, it would not require much of either time or skill. I shall be glad to hear if the plan meets with your approval, for, if there is a probability of receiving such an addition, I shall wait for it, to bind in with my eleventh volume.

Excuse this freedom, but my acquaintance with its founder gives me an affection for his work; and, when I find you drawing on the resources of my friends, Sargent and Lürman, I do not feel that you are altogether a stranger. Very truly yours, J. J. D.

[We are much obliged for the suggestion, but scarcely think it would at present pay the expense necessary to be incurred. A general index, however, may some time be both convenient and necessary, and if we hear of a sufficient demand, shall be forthwith made.—Ed.]

IOWA CITY, Dec. 28, 1856.

DEAR J.—: Iowa City contains about six thousand inhabitants, and six churches, and three public schools (now building.) The capitol is “bird’s-eye” stone, and was built some fifteen years ago. The weather, at present, is a mixture of rain, snow, &c. In some places, the land is very good; timber is very scarce—wood being five dollars per cord! In September, the wild plums are ripe, and crab-apples and grapes; the plums grow wild all over the country; there are no chestnuts here, but plenty of hazel-nuts. Fruit is very scarce out here. I have not seen a peach since I have been in Iowa. Apples are selling at five dollars per barrel. This is a great place for game; there are prairie chickens, quails, turkeys, deer, elks, bears, &c. You must not believe all you read in the papers; the speculators praise up their land in this way.

Yours, truly,

ROBERT HICKS WHITE.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The following gentlemen have been elected officers for the ensuing year: *President*—GEN. ROBERT PATTERSON. *Vice-Presidents*—JAMES DUNDAS, E. W. KEYSER, ROBERT BUIST, B. A. FAHNESTOCK. *Treasurer*—JOHN THOMAS. *Corresponding Secretary*—THOMAS C. PERCIVAL. *Recording Secretary*—THOMAS P. JAMES. *Professor of Entomology*—SAMUEL S. HALDEMAN, A. M. *Professor of Botany*—WILLIAM DARLINGTON, M. D. *Professor of Horticultural Chemistry*—ROBERT HARE, M. D.

ILLINOIS HORTICULTURAL SOCIETY.—A horticultural meeting was held, at Decatur, on the 17th of December, at which an "Illinois State Horticultural Society" was organized. The following officers were elected: *President*—Dr. E. S. HULL, Alton. *Vice-Presidents*—R. W. HUNT, Naperville; W. H. MANN, Bloomington; L. SHAW, Tremont; Wm. STEWART, Payson; S. FRANCIS, Springfield; Dr. KELL, Paris; JOHN P. REYNOLDS, Salem; Dr. CONDON, Jonesboro'. *Corresponding Secretary*—A. B. GALUSHA, Lisbon. *Recording Secretary*—JAMES STARR, Alton. *Assistant Recording Secretary*—F. H. PHENIX, Bloomington. *Treasurer*—Dr. B. F. LONG, Alton.

CALIFORNIA STATE HORTICULTURAL SOCIETY.—We have received from Mr. Wm. Daniels, of San José, California, the account of the formation of a State Horticultural Society, which is destined to be of great importance in communicating to the rest of the world accounts of the fruits, &c., of that great commonwealth. F. W. Macoudray, of San Francisco, is President—O. C. Wheeler, of Sacramento, Secretary.

Calendar of Operations.

MARCH.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

You have requested me to furnish you with a *Monthly Vineyard Calendar* for your valuable magazine. I shall do so cheerfully, and with a hope that it may, in some measure, assist to extend the cultivation of the vine. In whatever aspect this new branch of agriculture may be viewed, its usefulness will be acknowledged by all unbiassed minds.

The cultivation of the vine is rapidly on the increase all over the West and Southwest. The uplands of North and South Carolina, Tennessee, and Georgia, have recently been discovered to be admirably adapted to the growth of our great wine grape, the *Catawba*. There it is getting back to its *native locality*, after years of wandering over the Middle and Western States. The sale of cuttings and grape roots in Cincinnati alone, will be about 1,500,000 of the former, and 300,000 to 400,000 of the latter, during the present season.

It is with some diffidence that I offer directions for the cultivation of the vine to your numerous readers, scattered, as they are, over the whole Union. But I trust I may be pardoned for my presumption, when I state that the rules here given are such as are practised by the best vine dressers in this vicinity. The intelligent cultivator elsewhere, will of course make due allowance for the difference of climate and soil.

With some vine dressers, this is the great month for *spring pruning*, but it is found best to prune, in any mild and open weather, in February—never in hard, freezing weather—so that too much work may not be thrown into March. Some commence pruning late in November, and continue all through the winter, when the weather permits. This will be the mode best adapted to the South.

In adopting the *spur* and *bow* system—which is in general use in this vicinity—the best cane or branch of last year's growth is selected, and cut back to six, eight, ten, or twelve joints, according to the strength of the vine; this is to form the bow. The bow of last year is cut away. Another cane, *below* this, is cut back to two joints, and left for the *spur*, from which the bow will probably be formed the succeeding year, the object being to keep the stock or stem of the vine down to one to two feet from the ground. The new or last year's wood, trimmed from the vines, is then cut into lengths of twenty to twenty-four inches, and tied up, with willow ties, into bundles of one hundred to two hundred, and kept in a cool, damp cellar, or buried on end with the buds a few inches in the ground, to be ready for sale or for planting when the ground opens in April.

In preparing cuttings, reject the small spindling tops of the vine, and put up none but the strong, well-ripened wood, and if a piece of the old wood is left on the cutting, it will better assist it to strike root.

In any open, *dry* weather in this month, manure may be put in if required, and walls and trenches repaired, if any, but never when the ground is wet. Toward the latter end of the month, the stakes may be driven tight, and any broken ones replaced. And, late in this month, should the buds begin to swell, the bow may be formed by fastening the centre of the cane to the stake with a willow tie, and bending round and fastening the point (or upper end) to the stake at the base of the bow with another willow tie. This should be done, in moist weather, in the forepart of the day. The vine is then more pliable, and less liable to break in bending.

Training on trellises is very simple. The vine is cut down in judicious proportion to its capacity, and spurs of the new wood left from two to ten joints, according to their position on the trellis, and fastened to it with willow ties.

Any vine that may have died, may be replaced by putting down a good layer from the adjoining vine, as soon as the root is out of the ground.

R. BUCHANAN.

Cincinnati, Feb., 1857.

BY WILLIAM SAUNDERS.

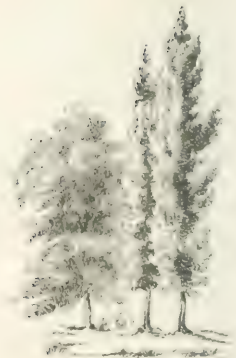
VEGETABLE GARDEN.—The earliness of crops is much accelerated by the application of thoroughly decomposed manure at the time of sowing; the matters for absorption are thus presented in a highly concentrated form to the roots, and the plants more speedily arrive at maturity. Much also depends on the state of the soil at the time of sowing. It is surprising that so little attention is given to draining by those who are interested in securing early crops; drained ground is always in a fit condition for working much sooner than that undrained. Draining, also, by the greater efficiency it confers on water as a solvent of plant food, increases the available supply of the soil, and the rapidity of this supply depends upon the aggregate surface of particles presented to the dissolving agent. Reduce a soil, therefore, and the roots of plants will have an increased pasturage. Hence the benefit of repeated culture, such as digging, forking, hoeing, &c., and hence, also, the beneficial influence of frosts on soil. Frost is not a fertilizer, but as water expands in freezing, and as the crystals of ice pervade the entire substance, a diminution of the particles follows after thawing, increasing the soluble surface. So far from diminishing the necessity of applying manures, the increased power of manufacture thus conferred on the soil must be accompanied by an increased supply of the raw material, if a permanent benefit is to be realized.

GRAPERY.—There is no doubt that the architecture of graperies admits of much improvement. According to present forms, the space for growth is limited, and the method of training objectionable; the amount of cubic feet inclosed is so small, that sudden changes of temperature are unavoidable—more particularly, hygrometric changes, which are more injurious than is generally supposed. The method of training the vines close up to the sloping glass, and the consequent exposure of the fruit to alternations of atmosphere, is a practical difficulty in cultivation. Repeated observation leads to the belief that vines trained on perpendicular trellises are seldom subject to mildew; the fruit is then protected and nearly covered by foliage, which defends it from injurious external influences.

It would be an interesting experiment, and one in which we would have much faith, to cover in a large space on the principle adopted by Paxton in the erection of the far-famed Crystal Palace. A square structure, with upright sides ten feet high, covered by a series of small spans laid on horizontal rafters, could be made to inclose a quarter of an acre of border at an expense not greater than is frequently incurred in houses eighty feet by twenty. The plants could then be planted in rows as those in out-door cultivation, and trained on similar trellises. Such a house would be worthy the name of grapery.

SHELTER.—This is an important subject for gardeners and fruit growers, and has of late been frequently adverted to by horticultural writers. Strawberries, raspberries, currants, dwarf pear-trees, and, indeed, all small fruits, are more or less injured, yearly, by the cold, drying winds of winter and spring. Evergreen hedges are at once the most beautiful and efficient protection, and the American arbor vite the best plant to produce them.

FLOWER GARDEN AND PLEASURE GROUND.—It is more difficult to arrange small places satisfactorily, of from one to three acres, than those of fifty or a hundred, especially when the attempt is made to develop all the features of the large extent in the smaller. The smaller the grounds, the more necessity of discrimination in the selection of trees and shrubs employed. Attention should be given not only to the height and size, but more particularly to the beauty and profuseness of foliage. Trees of compact and pleasing habit, and large foliaged shrubs, should be selected. Of Evergreens, the Norway Spruce Fir, the Silver Fir, Hemlock Spruce, Cembrian Pine, Pinus pumilis, White and Black American Spruce, Pinus excelsa, among trees; and Mahonias, Rhododendrons, Ilex latifolia, Euonymus japonica, Aucuba japonica, Kalmia latifolia, as shrubs. These should mostly be planted in masses of two, three, or more plants. Of deciduous trees, the Sugar, Norway, and Tartarian Maples, Horse Chestnut, English Alder, Judas-tree, K  lreuteria, Osage Orange, Magnolia umbrellata, Virgilia lutea, and such shrubs as Virginian fringe, Euonymus latifolia, Hydrangea quercifolia, Ligustrum rotundifolia, Mist bush, Spirea Reevesii, Large-leaved Lilacs, Weigelia rosea, Viburnum oxycoccus, Magnolia purpurea, and M. conspicua, and Dwarf Horse Chestnut, are a few of the kinds alluded to.



16



18

Landscape in Connection with Tree Planting, No. 3.



THE pictures of the landscape of a private dwelling are formed in the vicinity of the mansion, or with special reference to the views from its windows, balconies, or piazzas. In the execution of this, the most refined taste, united with a competent share of practical, botanical, and arboricultural knowledge, is necessary to success; the *painter's eye* should also have its influence. If water entered into the composition, it would be disposed in its natural place; the banks be as natural as possible, nor should too much of the water be exposed in one place, unless it could appear as a reach. Buildings should be only partially exposed, with the most characteristic angle jutting out from among trees, shrubs, and vines. Thus the hard lines in the dressed ground would be hidden, the asperities softened, and the exuberance of the imagination would have full play.

In planting a larger lawn or a park, and adjusting trees in them, the dressed ground should be linked easily and naturally with the scene, by placing groups of trees and bushes of the same relation or character as those of the kept ground, so as to appear parts of one mass or group; thus preventing a sudden break between the two scenes.

As there is a great diversity of character in places which are to be laid out, the improver ought to have a general stock of knowledge, to be drawn upon as opportunity offers; no rule can be applicable to all places, and it is impossible to lay down any code of laws by which a place can be properly improved without a tasteful direction. Perhaps, therefore, the best mode of conveying to the reader a knowledge of the principles and practice of this delightful art, is to first impress him with the beauty of single trees, their character of outline, leaf, and spray, and then to show him the principles of grouping as established by the concurrent taste of the painter and the improver.

From what has been said, it will be apparent that both the planting and thinning of ornamental trees require the attention of a skilful hand. The form and varieties of a group or groups, must be studied. When two only are planted, at least so close together as to intermingle their branches (Fig. 15), as before observed, the best effect is produced when they are placed as near to each other as, to all appearance, to form but one tree, as also seen in Fig. 6, in the February number, and the Beech (Fig. 18). In Fig. 13, the small Spruce Fir is highly injurious, but greatly improves Fig. 14. An Ash with a Scotch Fir, the Horse-chestnut with the Larch or Narrow Poplar (Fig. 16), would be as improper as the Round-headed Lime with the Spruce Fir (Fig. 13). The union of a spiral with a flame-shaped tree, as the Lombardy Poplar (Fig. 16), is out of keeping, compared with Fig. 17, when a greater breadth of Poplars is introduced, which may form the centre of a group planted on the left as well as on the right. These portraits, addressed to the eye, will prove of great assistance to those who are desirous of appreciating the beauty of groups.

Few will deny that one of the chief beauties of shrubberies and ornamental plantations, is the variety of trees and shrubs which are displayed in them. A good deal, no doubt, depends on the character of the ground, the distance, and the arrangement; but still, the grand source of the beauty and interest, when so many are botanists and arboriculturists, is the number of species and varieties.

We must now study not only to display in our grounds the picturesque, but the gardenesque; and, accordingly, there is scarcely a limit to the variety that may be introduced, and that with admirable effect. One word here regarding this subject. It is for gentlemen and gardening ladies to bring about reform; they have only to insist on planting *collections*, instead of a few kinds forever repeated. This will effect a double good; it will establish arboretums, and add immensely to their interest; and it will render necessary the propagation of a great number of species and varieties in nurseries, which will greatly increase the business.

THE DIANA GRAPE.*

IONA, N. Y., February, 1857.

MR. J. J. SMITH.—DEAR SIR: I send you a painting of the Diana Grape which very truly represents its beauty, and, also, a hasty description of it, believing it will be acceptable to the readers of the *Horticulturist*, and particularly to those who are wishing for a grape "earlier than the Isabella, and better than the Catawba."

Seven years since, the exquisite perception and unerring judgment of A. J. Downing, after two seasons' acquaintance with its fruit, "unhesitatingly pronounced it the best of American grapes." Time has not only affirmed the decision, but more fully developed its surpassing excellences and beauty. In habit and appearance, it strongly resembles the Catawba, and is undoubtedly the offspring of that fine grape, but it is a much more vigorous grower, and, in consequence of ripening its wood much earlier, it is more hardy, and its fruit is not, like the Catawba, liable to occasional injury by "rot."

It grows without difficulty from "single eyes," in the hands of the skilful propagator, but does not take root readily, in the open air, from cuttings. Layers furnish the best plants for immediate bearing, and, when well grown, produce fine specimens of fruit the first season after planting. To exhibit its excellence, it requires such treatment as all other grapes need: soil deeply worked, dry, and generously, but not excessively enriched, full exposure to the sun, and breadth of border proportioned to its rampant growth. It is not dainty, but does not tolerate ill usage.

Its berries are slightly less in size than those of Catawba, of the same globular form—bunches very compact and heavy—conical—not properly shouldered; but the main bunch has generally a small one appended by a long branch. In color, it resembles its parent, but is subdued by a delicate tinge of lilac, which gives an exceeding loveliness of tone that seems to invite the expectation of its superior flavor. The berries have, generally, upon their exposed surface three or four small white stars whose rays are often obscured by its copious bloom, showing only a milky dot. The berries adhere strongly to the peduncle, which is woody, and consequently fitted for long keeping, which is one of its valuable characteristics.

Towards the last of August, in this vicinity (fifty miles north of New York), it has made considerable progress in ripening, and has become "good" to eat, being very sweet and juicy, with but little toughness or acidity in its pulp. At this period, it has something of the foxiness that characterizes the Isabella and Catawba. This is fully two weeks before the Isabella arrives at the eatable stage, and before the Catawba has begun to color.

As the season advances, it parts with all of its foxiness and the acidity in its pulp, but retaining a vestige of its toughness scarcely perceptible, it becomes

* See Frontispiece.



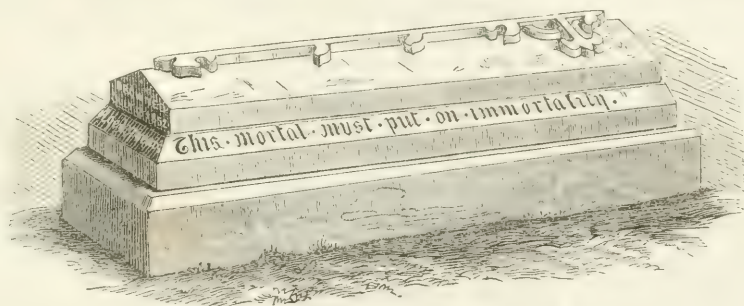
exceedingly sweet, juicy, rich, and vinous, and delightfully aromatic. In pure, high, vinous flavor, it greatly surpasses the Catawba, in its best state, at Cincinnati, and ripens two degrees of latitude further north than the Isabella. Although it ripens early, it is not injured by hanging late on the vines, and severe frosts destroy none of its vinous life or aroma.

C. W. G.

THE REAL MONUMENT TO DOWNING.

BY ONE OF HIS ADMIRERS.

MR. EDITOR : I was greatly interested to see the representation of the monument erected in the grounds of the Smithsonian Institute, in your last volume, and though I should, with you, have greatly preferred that it should have been placed over his grave, I too, as one of the interested, acquiesce. Perhaps you and your readers will be pleased to see the figure of the real monument erected to his memory. It is at Newburg, in the church ground, where I have frequently visited it with interest; and I consider it a most perfect memento in all respects, characterized by the best taste, such as he knew so well how to inculcate in whatever he undertook.



MONUMENT TO THE LATE A. J. DOWNING, IN THE CHURCH CEMETERY AT NEWBURG, N. Y.

The inscription is—

"This mortal must put on immortality."

"Be not dismayed, I am thy God."

Bitter was the day, and bitterer still was the blast, that whirled around me, as with shivering hands I scraped away the snow which had buried in its folds, as with a winding sheet, the above inscriptions; and yet cheerless and desolate as were the feelings inspired by the scene around me, they did not compare with the deep sorrow with which I well remember I saw entombed here all that was mortal of our lamented friend. I shall not soon forget that summer day, when still stunned by the horror of his sudden death, I witnessed that solemn and impressive service amidst those trees and flowers that he had planted and loved so well, and which seemed, in their abundant gratitude, to bloom more sweetly for his hands than for any other. His death was so sudden, and his burial followed so hard upon it, that one could scarcely realize that even here, into that blooming paradise, the destroyer had come.

It seemed to have been the desire of his friends that the last known and seen

of him on earth should be as lovely as was his life. As he was born among flowers, so among them he lived and was buried.

In the careful culture of his beautiful home, he never permitted any evidence of neglect. Every fallen leaf, even, was constantly removed; so in his death there was no evidence of decay, in the full beauty and prime of manhood; without a spot or blemish was he stricken down; neither old age, nor sickness, nor misfortune had laid their heavy hands upon him, but like a beautiful meteor he disappeared; and many years must roll on ere those who admired and loved him will have forgotten his *brightness*.

The adoption of the texts as above must be deemed every way satisfactory, and more in accordance with proper feeling than any elaborate effort of the Muse; and yet there have been successes; I am tempted to quote two examples, which in their sentiments seem to apply to the departed. The first is the

Epitaph on John Dryden, by the Bishop of Rochester.

This Sheffield raised, to Dryden's ashes just,
There fix'd his name, and there his laurell'd bust.
What else the Muse in marble might express,
Is known already; praise would make it less.

Hogarth's is in the proper spirit, and applicable in some respects:—

Epitaph on Hogarth, by Garrick.

If genius fire thee, reader, stay;
If nature touch thee, drop a tear;
If neither move thee, turn away,
For Hogarth's honored dust lies here.

Many will be the feet in future years that will wend their way to this shrine of one greatly endeared to a large circle.

Well, indeed, in Downing's instance, might the beautiful words of the poet have been applied, as his coffin disappeared among his trees. And now—

“Linguenda tellus et dormus et placens,
Uxor, neque harum quas celis arborum,
Te præter invisas cupressos,
Ulla brevem dominum sequetur.”

Which, literally translated, would read thus: “The world must be given up, and home, and the gentle wife; and not one of all these trees you have cherished, except the envious cypress, shall follow thee, their short-lived master, to the grave.”—

VISITS TO COUNTRY PLACES.—No. 8. AROUND NEWPORT, R. I.

THOUGH climate exercises less influence upon the life and health of animals than on plants, it is very desirable to the animal—man—neither to be roasted nor frozen; at Newport, by general consent, it is admitted there is a more agreeable temperature, both summer and winter, than in any latitude of ours so far north. If the people of this country are ever able to afford it, and they will be, most assuredly, they will have two cities, one for winter and one for summer; one where trade and manufactures can flourish, and another on the sea-coast, or in the mountains. It is fast coming to this; our desirable watering-places are now crowded; those who can manage to do so, have their own dwellings, and Newport can boast of some of the best in the country. Bancroft, the historian, George Calvert, of Baltimore, David Sears, Robert Mason, Sidney Brooks, and Mr. Ritchie, of Boston, William

Beach Lawrence, Samuel Nicholson, &c., of New York, Samuel Powel and John A. Brown, of Philadelphia, Ralph Izard and Henry Haywood, of South Carolina, George Jones, of Georgia, and various other gentlemen, have chosen this place for its climate and its society. From this section and the South, there are fewer housekeepers than from the eastward, and we verily believe it is because the access from New York is over a sometimes rough sea; but mainly from the arrival of the boats at the Newport wharf at night. In case of a storm or a fog, it is vastly disagreeable. A minor nuisance, but still a nuisance that should be abated, is the horrible din of stentorian lungs hired to cry the names of the hotels, than which nothing can be more preposterous, as every one has made up his mind as to accommodations before arrival. It is a great drawback to Newport that it is so hard to arrive and depart. Had the scheme of the Long Island Railroad, to take passengers to the place, been carried out, the number of residents, in both summer and winter, would have been vastly increased.

Once fairly settled on the island, however, you begin to feel the genial influences of the place; it is climate (and society united) that has given back to the jaded citizen some of the feelings of health; that this is the case, the return of the same immigrants year after year testifies; many of these are beyond and *above* the mere requirements of fashion; they have experienced the benefit, and desire their families likewise to enjoy it. Hence many have built fine houses; others, mere boxes for a few weeks' occupancy. Among the most finished, we might say the most, is the

Residence of De Lancey Kane, Esq., Beachclyffe, within sight of the bathing-ground, isolated, and yet near the busy haunts of fashion. It is Mr. Kane's own creation, assisted by Mr. R. B. Leuchars, and he has shown, in its details, an educated taste as rare as it is correct. A fine mansion, in the style of the best class of Belgian chateaus, is situated in the midst of about twenty acres, and is so built as to command the sea as well as inland views. The whole town and its visitors bathe at such a distance as to give animation to the scene from one end of the house, but they are so far off as to look like birds disporting in the waves. The lawn, however, is Mr. Kane's greatest triumph; here difficulties had to be encountered which would have discouraged most. The old inhabitants were satisfied that they must live without trees; the coast is without them; the winds were too powerful, and the thing was pronounced impossible. Not discouraged by the croakers, our host has solved the problem, and this was his mode of operation.

Trees, such as the Abele or White Poplar, were planted on the boundaries, and, within their magic circle, belts, and single trees and shrubs, soon flourished. It is true, that the gales are strong enough to cut the leaves of the Horse-Chestnuts annually into ribbons, but *shelter* has at length done its work, and Mr. Kane now possesses an arboretum of rare trees and shrubbery such as would do credit to any soil or situation; but he has given great attention to his planting, opened and loosened the ground, brought the proper manures, staked, trimmed, and tended, till the place presents beauties and effects which more favored and less windy localities rarely possess. We found here, in great perfection, the following trees; the list, though imperfect, we give with confidence, as that adapted to Newport planting:—

All the Maples except the Sugar and the common English. The best are the White and the Norway.

The English and the Turkey Oaks.

The English Elm, and several others.

The English Hornbeam.

The whole of the family of Willows.

Of the Pines, the *Excelsa*, *Sylvestris*, *Austriaca*, and *Cembra*, may be said to do extremely well.

Spruces—the Norway succeeds tolerably well; the Himalayan perfectly; and Menzies will no doubt grow.

The *Cunninghamia sinensis* flourishes well, and is perfectly hardy. The Atlas Cedar, the Japan Yew, and the rare Round-leaved Yew, do well, and are hardy, as likewise do the Chinese, Swedish, and English Junipers. *Arbor-Vitas*, such as the Siberian and Yellow, and many others of this group, are entirely successful.

As a test of this climate, we are assured by Mr. Albert Smith that the *Amaryllis longifolia* has stood out in his garden the last ten years, and the *Pride of India*, that charm of Southern cities, and which dies down annually in Philadelphia, stood out during the cold winter of 1855–56, and bloomed in the autumn. It does not make a tree, but succeeds as a shrub. *Phyllirias* stood out also uninjured. All the *Spireas*, new and old, do remarkably well, as also the *Deutzias*. The Belgian *Azaleas* must be protected from the wind. Six sorts of English Heaths withstood the cold effects of the cold winter, and flowered nearly all last summer. The *Deodar Cedar* is more successful here than anywhere north of Baltimore, as are the varieties of Chinese *Magnolias*; and no doubt the *Salisburia* and *Tulip Poplar* would grow well.

Here is a surprising list for a Northern home; the beneficial effects of the proximity of the Gulf-Stream are clearly traced, and we cannot wonder that so many people are selecting Newport for both a summer and a permanent residence.

At Mr. Kane's, we saw an example of the value of Swift's Lawn Mower, that sets at rest every possible objection to the success of that instrument. The lawn is as perfect as any one can desire—a smooth, even, green carpet, that gives more effect and expression than can be imagined by those who have not witnessed a good example of high keeping. Two men and a horse mow six acres in a day, also cutting round the shrubbery, and this includes taking away the short grass picked up by the machine at the same time that it gives a good rolling to the ground.

The whole effect of Mr. Kane's grounds is eminently satisfactory. Neatness prevails throughout. The visitor to Newport will recall the place by the very



chaste entrance lodge of brown stone, of which the foregoing is a sketch. The orchard-house is seen on the right, and this has for neighbor a large and successful grapery, and a most productive garden, &c. &c. In short, Mr. Kane's already presents the air of an old European place, and when the hospitality of its owners, the elegance of the entire ménage, and the charming family of children (who are great-grandchildren of John Jacob Astor), are taken into the account, we know of no more agreeable spot in America.

The following cut represents the mode of laying out Mr. Kane's grounds by Mr. Leucars:—



- | | |
|------------------------------|-------------------|
| A. The mansion. | E. Flower garden. |
| B. An open vista to the sea. | F. Entrance gate. |
| D. Beds for shrubbery. | G. Gate lodge. |

- | |
|---|
| H. Kitchen garden, graperies,
orchard-house, &c. |
| I. Vases and statues. |

Thomas R. Hazzard's, at Vaucluse, about five miles from Newport, is an example of a well-planted place, now somewhat old, and, we must say, a little neglected by its owner. It was the residence of Samuel Eland, who laid it out in the English style of gardening, with artificial water, and groves in abundance, but time has so intermingled the trees and shrubs, that the traces of the original design have been nearly lost. A thorough improver who would go to work judiciously, might make much of Mr. Hazzard's grounds. Even as it now is, it is attractive. The owner is understood to be more attached to rendering his own species happy by charitable acts to the suffering, than to the inanimate but beautiful vegetation around him.

Miss Gibbs', near to Mr. Hazzard's, is a fine old place, with some remarkable

specimens of trees, but we took no notes here of a short walk in the plantations now fairly grown into "woods."

J. Prescott Hall's place, some distance above Newport, is a good example of successful farming and of open-hearted hospitality. Here stands the original Buffum Pear-tree, in full vigor, though it has seen many a blast, and has twice been repaired with cement in its old body. Mr. H. has begun to plant, and already his screens promise protection.

Alfred Smith, an enthusiast in new Evergreens and other horticultural matters, resides in Newport, and was an esteemed correspondent of *Downing's*. His garden possesses a great variety of the newer trees and shrubbery; a visit to it will be a treat.

Our fellow-citizen, General Cadwallader, is making great progress in laying out one of the finest sites for building in all this region. It is near the sea, on the south shore, at Coggershall's Point, and commands very fine views. The planting and levelling has been in progress for several seasons. Mrs. Cadwallader takes great interest in this work, and her taste is eminently successful. Ere long, the Newport visitor will no doubt see a stately mansion rise to ornament this superb situation.

William S. Wetmore has one of the largest and most costly mansions in Newport, built of Fall River granite. It is situated in the "Neck," on the road to General Cadwallader's. Mr. Wetmore has about forty acres, very large and well constructed graperies, conservatories, &c. He has a fine view of the ocean.

Mr. George Culvert has a cottage with about three acres, which he has made the most of by judicious planting. His literary tastes, and the vicinity of Mr. Bancroft, are not to be forgotten in any notice of Newport society—a residence among which is of course rendered more agreeable by a knowledge of the families of the habitués of the place.

At Newport, especially at Edward King, Esq.'s, are fine specimens of Cembran Pine, twelve to fifteen feet in height; a slow-growing tree, when young, but one of the most ornamental. Also, very fine specimens of the different varieties of evergreens, Oak, Purple Beach, and the different Junipers.

In front of the Redwood Library, we noticed the finest specimen, probably, in America, of the Fern-leaved Beech, fifteen or twenty feet in height, which we hope those who read this sketch, and visit Newport thereafter, will not fail to remark. A speciality of the place is the great produce, and the beauty of the Quince-trees; they attain a size, and bear fruit of a quality, nowhere else realized in our observation; in fact, they remind us of the finest Orange-trees in their greenness and luxuriance.

Before concluding, we may observe that Mr. Kane has planted some three hundred Rhododendrons, quite large; they are employed as "under growth," and are to be cut down when they become too tall; he has tried this method, and finds it to be the only way to get well furnished, stocky plants. In fact, he thinks if the Spruces, Pines, and most of the Evergreens, were headed in, they would be much improved, by being more compact; the soil at Beachlyffe is so rich, and the warm, moist climate, so favorable to these trees, is of so *forcing* a character, that nearly everything grows too quickly, or, rather, too tall and slender.

We shall watch the progress of these places with much interest.

No sketches "Around Newport" can be complete without mentioning the capital fishing that is to be enjoyed here, both from boat and shore. We are constantly reminded, by a wish to throw in a sketch of character here, and a hint of some elegance now and then, that we are encased in a kind of armor which forbids the use of one's natural taste for accounts of conversations, or the introduction of

anecdotes of home circles. Were we more unshackled in these respects, and less confined to particular topics, Newport would afford opportunities to sketch pleasant people no less than scenes; we should, in fact, close every sketch without the mortifying reflection that "kindness," "hospitality," the ladies and the gentlemen who people the delightful places, are to be omitted; for, after all, the paradise is more frequently in the inhabitants than in the most cultivated scenery.

GARDEN VEGETABLES, NO. 4.—BEANS.

BY WILLIAM CHORLTON.

THE genus *Phaseolus*, to which our cultivated beans, with the exception of the English, belong, possesses a wide geographical range. It is found indigenous in Asia, Africa, and America, with its adjacent islands; but Nature has not furnished Europe, so far as investigation has gone, with a single species. We have several on our northern continent, but those that we usually grow as food, and are to be most profitably recommended, are of Asiatic origin. Notwithstanding which, during the growing season, our climate is highly suitable to their condition, and from their productive and wholesome qualities, they have now become a class of standard vegetables.

There have been many species introduced to notice, from time to time, by hardy adventurers, and high expectations have been anticipated; but when fruiting time came, they were found to be only duplicates of former importations, or were of inferior properties, and we have as often had to fall back upon well-tried, and formerly accepted varieties. The hybridizer is, however, doing his share of improvement, and there is still work ahead.

The best soil for this class of plants, without exception, is a rich sandy loam. Any tolerably fertile mould, with a dry bottom, will grow them well enough. A cold or wet situation should always be avoided, as in such the seeds will most commonly rot before vegetating; and, in all cases, there is nothing gained by being in too great a hurry to have the beans in the ground before some solar warmth has been infused into it. Great mistakes are often made in this way, and the seedsman is afterwards blamed for having sold bad seed. The fact is, the organization is of tropical constitution, and we cannot force its healthy development under contrary circumstances; therefore we may say, as the best advice—wait until the peculiar chilliness which winter leaves behind, and with which all cultivators must be acquainted, has been evaporated from the soil. According to each situation or locality, so will the suitable state be, and after this no time should be lost in sowing the first crop. The hardiest of the Dwarfs, and also the Scarlet Runners, will generally succeed if put in early; but with the Lima, or indeed all Pole beans, it is better to let the soil get somewhat warmed by the sun's influence. Seasons differ, and localities are earlier or later according to the latitude, situation, or dryness of base; and on this account I have endeavored to show the actual requirement, instead of mentioning exact time. So far for out door culture; but further, if it be required, and expense is no object, the Dwarfs may be had fresh gathered the year round.

DWARF OR BUSH BEANS (*Phaseolus vulgaris*).—Some of the varieties are only fit to be used while the pods are in a young and crisp state, cut into small pieces and boiled; others are allowed to ripen, and the seeds only cooked; while a few are adapted to both purposes. They require to be sowed in rows eighteen inches apart. Stretch a garden line tight, and with the corner of a hoe open a drill two inches deep; into this lay the seeds, two inches distant from each other; cover up

carefully, and when the plants are fairly above ground, thin out to six inches, at the same time loosen the soil on each side, and draw a portion to the stems. This will assist the growth, and prevent the wind from blowing the plants over; and, if the same operation be again repeated in two weeks, it will be of still further benefit.

There is often much waste of land in the way some vegetable gardens are cropped with the more transient articles, and here is one of the examples. In most edibles of this character, only a small quantity, with frequent sowings, is needed, and if a plot be occupied by such alone, it interferes with the space that may be wanted for those of a more permanent, or later character. Supposing, for instance, we take the piece intended for Water, or Musk-melons, the rows will be seven to eight feet distant, and the vines will not meet till midsummer. Now, if between each of these, a couple of rows of the first and second sowing of Dwarf Beans be put in, they will be pulled and ready for removal before the melons interfere with them; a third and fourth sowing may be accommodated between the later plantings of corn, and a trifle of thought or forecast will readily show how; not only this, but many other things, as radishes, lettuces, &c., may be had in abundance, and still the garden be fully and generally filled with those kinds that occupy the whole space most of the after part of the season. With such ideas, judiciously applied, one acre may be made to produce more than two without them, besides the avoiding the having one-half bare soil all summer.

To keep up a regular succession of Dwarf Beans, it will be necessary to sow about each three weeks, commencing as soon as the earth gets to be warmed a little. In latitude 40°, this will generally be about the first of April, but earlier or later according to the divergence, and continuing on to the beginning of September. Many kinds are to be found in the seed lists. The best I have tried are, for the first sowing, *EARLY MOHAWK*, a hardy, very early, and good sort. As a second, *EARLY CHINA*, a free bearer of good quality. For all after summer successions, *REFUGEE*, a most abundant and profitable kind; and *ROYAL WHITE*, a fine, late sort, of good flavor, suitable for use either as a legume, or a dried bean for winter. Any ordinary family will obtain enough, for the time being, from a row fifty feet long, and if the successive sowings be attended to, there will always be a gathering ready until frost cuts down the plants. When it is determined to have fresh "string" beans the whole year, the sowings will have to be continued under glass with artificial heat, and in this case the temperature should be kept up from 55° to 60° by night, and 70° to 80° in the day, and the plants placed near the glass. Boxes, three feet long, six inches wide, and five inches deep, with a few holes in the bottom for drainage, are the best for this purpose, each of which will serve for eighteen plants. These may be filled with a well incorporated compost of equal parts of very rotten barnyard manure and good friable loam. Sow the seeds, and cover one inch; when the plants are up, add another inch to the surface. Be careful to have the soil not more than slightly moist, unless with a strong heat, until the seeds are above ground, as they are subject to rot. For this purpose, the *Early China*, or *Early Valentine* are two of the best. Six of these boxes will give enough as one crop, but there should be a fresh lot sown each three weeks. In the forcing-house this plant is very subject to red spider, which, if not kept under, will prevent all success. It may be effectually destroyed by a free use of the syringe, and a little sulphur mixed in the water thus applied.

LIMA BEANS (Phaseolus lunatus).—There are several varieties known by this name. The large white is about the best. Being tall growers, they require more space than the dwarf sorts. The most usual, and on the whole the best method, is to plant in hills four feet apart. Mark off the piece intended for planting, in

straight and right-angled lines ; at each of the intersections, drive down an iron bar two feet deep ; into the hole thus made, sink a twelve foot pole ; afterwards dig around each, raise a small hill two inches high, and level the surface ; lay down six or eight beans, with the radicle or eye side downwards, and cover one inch. If poles are not to be obtained conveniently, the seeds may be sown six inches apart, in rows six feet asunder, and the vines trained up strings. These, however, will require support, and it is only a makeshift job without economy. When the plants show the first rough leaves, thin out to four of the best, loosen the surrounding soil, and draw a portion up to the stems. At the first start, the wind sometimes prevents the young vines attaching themselves to the poles ; when so, they should be twined round, always in the opposite direction to the sun's course. Where there is the convenience of a grapery, greenhouse, or hotbed, a quantity may be sown in pots, or boxes, the first week in March ; and, when five or six inches high, they may be gradually hardened off in a cold frame, to be afterwards planted out in the open ground when danger of frost is over. In cold or wet situations, this is of advantage ; and, occasionally, under any circumstances with a favorable spring time ; but, as a few days only, at the best, can be gained, it is scarcely worth the time and trouble which have to be bestowed.

The sorts recorded above will effectually answer all kitchen purposes, and they undoubtedly possess the finest quality, but as many persons are fond of variety, the following may be noticed :—

RED AND WHITE CRANBERRY.—These are easily cultivated, and may be kept for winter use.

DUTCH CASE KNIFE may be used young in the pod, or allowed to ripen for winter.

SCARLET AND WHITE RUNNERS are only serviceable as a string bean. They may be sowed earlier than other running beans, and are subject to “burn” out during hot and dry summers.

CAROLINA is like the Lima, but smaller, and as the latter is better in quality, this has no property to recommend it but its greater hardness.

ASPARAGUS OR YARD LONG—of fine flavor when the pod is gathered quite young, as a string bean.

All these last mentioned, excepting the Carolina, may be sowed six inches apart, in rows six feet asunder, and staked in the same way as tall peas ; or, the seeds may be planted at the base of each hill of the earliest crop of sweet corn, in which case, if the cobs, after being ready, and the leaves also be stripped off, the stalks will become supports to the beans, without any expense, and will continue to keep the ground occupied for the remainder of the season. Here is another idea in economical cropping.

ENGLISH OR BROAD BEAN.—This is a very different subject from those we have already treated on. It is the *Vicia Faba* of botanists, and grows three to four feet high, having a short stem, and very sweet-scented, black and white, showy, pea-shaped flowers. Our climate is too hot and dry for its constitution ; consequently, it only succeeds as a first and early crop, excepting in very cool situations. When it is obtained, the flavor is so strong that nothing but a piece of fat pork, boiled in the same vessel along with it, will render it at all palatable. It is, notwithstanding, a wholesome farinaceous vegetable, and a small variety is extensively given as food to horses, while other kinds are used as a kitchen edible in Northern Europe. The *Windsor* and *Long Pod* are two of the best for the latter purpose. The seeds should be sowed as soon as the ground is in working order after the frost breaks up, six inches apart, in rows three feet asunder. When the plants are four inches high, hoe the soil up to the stems, and when in full

blossom, pinch out the tops of the shoots, which will cause the pods to swell more evenly. The seeds only are used, and they are fit to gather when fully swollen, but not approaching to ripeness.

All kinds of beans will readily impregnate with each other, if the different sorts be near neighbors and in bloom at the same time, for which reason, when the saving of seed is an object, and purity is desired, they ought to be sown in places as far apart as the limits of the premises will admit of.

How to Cook.—"String" beans, "*Snap Shorts*," or those of which the pods are used, are only good while fleshy and brittle. If they approach towards maturity, they become tough, and are always discarded by any cook who knows her business. Take each pod between the thumb and fingers, with the point upwards, and with a knife cut or strip out the stringy substance, which is attached to the back part. Cut into small strips and throw into cold water for half an hour. Have ready an ordinary sized pan of boiling water, put in a teaspoonful of salt and one-fourth of the same spoonful of carbonate of soda. Boil three-fourths of an hour, drain through a sieve, and serve up with melted butter. Dried Lima, or the other kinds—the seeds of which are used—may be soaked in water from the night previous, and boiled in the same manner.

PETTY ANNOYANCES TO AMATEUR FRUIT GROWERS.

BY ANONYMOUS.

DEAR EDITOR: Allow me to say a few words to your readers of the *Horticulturist* about the petty annoyances of the fruit grower. The source of the present sketch might, with some propriety, be ranked among the same category as grub-worms, millers, butterflies, and caterpillars, were it not that it proceeded, and has to be endured, from a much higher order of beings, though they are often intrinsically equally vexatious.

Now, sir, we live in the country, of course. When I say we, I mean myself and good housewife. A small estate, I may say, is our own, and has become so entirely by our combined industry. We have co-operated together for years, held many consultations in regard to the arrangement of "matters and things" about and around the house, and may congratulate ourselves on having finally succeeded in having things to our taste and satisfaction. Though the whole is, throughout, on a miniature scale, it yet affords us many peculiar pleasures not enjoyed in every condition of life, for it is here that we may reap the fruits of our labor in the true sense of the word. To this, indeed, not a few are strangers. Quite too many fail from neglect to plant and cultivate at all, and hence must reap the fruits of negligence. Let us see the effect of this upon the moral deportment of both. The latter often fail to learn to appreciate and properly respect those that do plant. The systematic cultivator, on the other hand, plants and rears around him, and, as years roll by, his place soon grows into a little terrestrial paradise, abounding in peace and plenty, rendering a home an inviting place, lovely and beautiful, where friends love to dwell.

We greatly enjoy the condition of things around us, and so do our little chubby boys. They also love the charming retreats among the various bowers and arbors. Though they are yet quite young, they have already imbibed the influences of the surrounding atmosphere. They take pride in all these things, and seem to thrive all the better for occasionally lending willing hands in aid where anything requires repair and fixing. They vie to excel, and vie in growing up strong and ruddy,

not unlike the flowers they are so fond of cultivating. But they have learned more ; the effect of these influences does not stop here. They would not harm a single flower unbidden ; neither touch any of the tempting fruit which surrounds them, unless directed. They know that they will share it when it has fully matured, and already look forward to the beautiful pictures, the fine dwarf pears, the rich clustering grapes, will afford them in their natural perfection, undefaced by them or anybody else. They love pictures, they appreciate them, and know full well that bunches of grapes deprived of half their berries, do not afterwards present a very desirable aspect. At least, but a bad picture.

Such is but a meagre description of the influences of our *country home* upon ourselves and family. Morally, its effects are as obvious, if not more so, than physically. It inculcates and cultivates a sense of *taste* and *propriety* which we find of inestimable value in our intercourse at home or abroad. But how does this apply to some of our friends that occasionally honor us with a visit ? Let us draw a sketch from life and see. Let the season be autumn.

The summer is well advanced, and a fine prospect of half-ripe fruit decorates our trees and arbors. All presents a fine prospective, and all are looking forward with high anticipations and gladness, especially to the ripening of the newly added varieties. It is a fine, sunny day, and the family is honored with a visit of some half-dozen ladies. In the absence of the husband, the wife seats them comfortably in the parlor, and entertains them until the big hours of noon draw nigh. Dinner is to be served, and cannot be done by proxy, and, taking circumstances in consideration (for the visit was unannounced), requires rather busy hands to be in time ; for, in the country, we dine in the middle of the day, and not in the afternoon.

The company is left to itself for the moment. But time drags heavily with them, though surrounded with mental food and amusement—all that could be desired ; for the company boasts of an acquaintance with all these matters. They break up, and start on a ramble through the gardens. They ask no questions. They seem perfectly at home. They seem to require no guide, preferring to go on their own hook.

They advanced but a short distance ; their attention was attracted by a dwarf pear-tree. This was a new and rare variety. It bore a few this year, for the first time—the first fruit looked forward to by the proprietor, after bestowing four years of careful attention. The fruit looked somewhat tempting. It was plucked and tasted by them. It was found unpalatable. Another is tried, and another, and all found equally unripe, and are heedlessly and carelessly thrown away, as though there was no reason for disappointing them.

But the depredation does not stop here. They seem to act as though they were in the wild woods, and entirely unobserved. Yet the little boys were taking observations, all the while, from one of their hiding arbors. Though surrounded with flowers of beauty and fragrance, this seemed to make but little impression upon their cultivated minds (?). But the ornamental grape arbor seems to offer new and better attractions, and thither they repair.

The fruit hung in its grandest beauty, in rich clusters, just on the verge of assuming the amethystine hue of ripening. The temptation was greater than the first (especially to such as have learned more of everything else than “lead us not into temptation.”) It proved irresistible, and, for the time, all moral law of propriety was lost sight of. Down came the fruit, and all accessible bunches having berries with *only a purple blush*, were picked !

The actual value of such an amount of fruit, and much better fruit than this, is considered as nothing ; but the almost unsurpassable beauty of the arbor, where

the work of art and nature were so successfully interwoven, presenting a picture of which we felt proud, was sadly the worse for it in the eyes of an amateur.

As these proceedings were progressing; the silent lookers-on could endure it no longer. They stole away unobserved, and told their busy mother all about it. She went to the rescue. But what would she do? Scold them? Put 'em in jail? as these towners would be very ready to do, were we to venture to town, and attempt to act their part. Nay, we must take it all good-naturedly. In this case, as dinner was over, and a few hours spent in social *tête à tête*, the poor things needed no further chastisement, for their imprudent violation of the laws of health by eating an undue quantity of unripe fruit, inflicted its punishment most keenly; it told a sickening tale on them.

Trivial as the subject of this sketch may appear to you and others, it is not the less truthful, and is what we have frequently to undergo; and I ask whether you do not consider such conduct *very annoying*, especially when it has to be endured from such as lay claims to the advantages of a good education? To the generality of amateurs, it is ever a pleasure to give, but few will be found who do not keenly regret having the things in which they feel so lively an interest pillaged and despoiled: most who cultivate, have learned to value them too much to be thus trifled with. Very often we have new varieties, just coming into first bearing, in the cultivation of which we have spent time and money, and are thus deprived of ascertaining their real qualities.

Sketches, *ad infinitum*, of a similar character, and some far more vexations, could be added, if desired; but this may, perhaps, suffice for the present (if not already superfluous).

HOW TO TREAT PEACH-TREES.

BY THE LATE A. J. DOWNING.

APRIL is the time to "shorten-in" your peach, apricot, and nectarine-trees, both for the sake of the fruit they will bear this season and the health and good condition of the trees. I suppose everybody understands the difference between shortening-in and common pruning. If not, I must make a long story short by saying, that shortening-in is nothing more than cutting off the *ends* of the last year's shoots.

Suppose, for instance, the case of a young peach-tree just coming into bearing. The growth of last year consists of shoots, all over the outside of the head, or top of the tree, each shoot from ten to twenty inches long. Well, in the case of such a tree, I should shorten-in every shoot one-half—that is, I would cut off five inches of the end if the shoot is ten inches long, or ten inches if it is twice that length. If the tree has made but a moderate growth, then I would take off only a third; or the same if there is but a scanty store of blossom-buds. But if the tree is strong and healthy, and shows an abundance of blossom-buds, then half the length of the last year's shoot is not too much.* The fruit will be larger, you will have as many bushels, and the flavor will be much richer; and what is of great consequence, the constitution of the tree will not be impaired by over-bearing.

In the case of large, or old peach-trees—especially if they have been neglected, or badly pruned—something must be done that will bring them within bounds

* I mean, of all the strongest shoots. The weak ones may be left two-thirds their whole length.

again, and restore them to good condition. This, as I have satisfied myself, may be done by "heading-in," which is nothing else than cutting back the ends of the principal limbs—say from two to four feet—in order to make the tree throw out a new head of young, healthy bearing wood. Of course, this proceeding loses you the crop of fruit for this year; so, that if that is important, you must take *one side* of the tree this year, leaving the other side to bear, and next year head-in the other side. In this way I have restored old apricot and peach-trees that were "given up by the doctors" as superannuated and worn out in service, to a pretty respectable condition of youth again; good at least for half a dozen years more.

It is the fashion nowadays, when the chemists and doctors wish to know what is to be done to help a plant or tree, to *examine its ashes*. It is, in truth, not a bad plan, and is evidently founded on the old doctrine that the new grows out of the old; "ashes to ashes and dust to dust." Exactly what the elements of the peach-tree ash are I don't know, for I have not been able to find any analysis; but I conclude they are pretty largely *lime* and *potash*, for I have found by repeated trials that *wood-ashes* is the very substance (along with sufficient manure in the soil, mind), to maintain a healthy, substantial, and productive habit in a peach-tree.

Don't be so foolish (as many persons are, when they are going to give an extraordinary relish of a new-fangled manure to a plant), don't be so foolish as to content yourself with sprinkling four or five handfuls of ashes around a peach tree and expect its leaves to turn color with a lease of new life. Take half a peck of *leached* ashes to a young tree, or half a bushel to a full grown tree—in that proportion at least; put not a dust of it around the trunk (that is, so far as benefiting the roots go), but make a calculation with your eye of how far the roots of the tree spread; it may be two feet, it may be six feet every way from the trunk. Then, having satisfied yourself about where the greater part of the *young fibres* are, spread the ashes on the surface of the ground, over them, and turn it under about three inches with the three-pronged spud, or a light spade. If such treatment as this don't give you healthy trees, then your stock is radically diseased, and only worth a place on the wood-pile.

That little enemy, the peach-worm, will very likely have established himself in your trees; he is already there to a dead certainty if you are not wide awake to his sapping and mining habits. If, therefore, you have not been over your trees last fall, and got the upper hand of him for the next six months, altogether the best way of doing business with this gentleman is to Lynch him on the spot, by ferreting him out of his hole, in the neck of the tree, just below the surface of the ground. You can do this good turn for a peach-tree in five minutes, by lifting the soil around it two or three inches deep, laying bare the stem just between wind and water, as the old sailors say. If all looks clean and smooth there, very well; replace the soil again. If, on the other hand, you see *gum*, then look out for the enemy. Scratch a moment with your knife where the gum oozes out, and you will get on his trail; cut into the bark till you find him—in the shape of a white grub, three-quarters of an inch long—and when found, "make no note of it," but settle his accounts as rapidly as you can.

This grub comes from an egg laid in the bark, in summer, by the winged insect. Unless the creature is wonderfully abundant, it contents itself with looking about for the tender bark at the surface of the ground. On this account it is a good plan to outwit the rascal by heaping up a little cone or pile of wood ashes, tan or sand, say six inches high, around the trunk. The sole object of this is to guard the soft place in the bark at the neck of the tree. On this account you must clear away the pile every fall, so as to let the bark harden again. If you

do not, but keep it there winter and summer, you will find that it does no more good than blowing against the wind—for the very plain reason that the bark becomes tender at the top of the pile, instead of the surface of the ground, as before.

Some years ago a good deal was said in favor of pouring boiling water about the neck* of peach-trees. It was said to kill the worms and do no harm to the tree. I am an advocate for this practice. I do not consider it, by any means, so thorough a means of ridding the tree of worms as "war to the knife" is, but still, it will in most cases do the job for them most effectually; and many a tree that stands near the kitchen door may be protected in this way by her who holds the kettle for a weapon, as well as by the "regular army" of practical gardeners.

Besides this, I have satisfied myself, by experiment (though I am sorry I have not yet had time to get up the *theory*), that a good dose of hot water is a means of bringing to many a peach-tree just about giving up the ghost. It seems to rouse the vital powers; and if there is life enough left, a good scalding at the neck seems to produce a reaction that is at times quite wonderful.

Three years ago I had two trees, a peach and a favorite apricot, that had been failing for a couple of seasons—often thought before that very serviceable trees. They had been rather badly treated by the worm, to be sure, but that had been attended to in time, and the roots appeared to be in very fair condition. Still, the trees dwindled, looked sickly, and bore little or no fruit. As a desperate remedy, I resolved on a trial of hot water. I removed the soil directly round the neck of the tree, making a basin three inches deep and twenty inches across. Into this I poured twelve gallons of boiling water.

To my great satisfaction the trees, instead of dying, immediately pushed out vigorous shoots, took a healthy appearance, and made a fine growth of wood, and have since borne two crops of delicious fruit. I experimented last year again, with equal success, and now am ready, like old Dr. Sangrado, to prescribe *hot water* in all desperate cases. Yours,

AN OLD DIGGER.

PROPAGATION BY MERE LEAVES.

RICHARD BRADLEY, in the last century, published a translation from the Dutch of Agricola, on the "Propagation of Plants by Leaves," in which it was asserted that, by the aid of a mastic invented by the author, the leaves of any plant dipped at the stalk end into this preparation, would immediately strike root; the book was adorned with copper-plates, exhibiting both the process and its result, in the form of fields stock full of orange leaves growing into trees.

This is absurd enough, yet it originated in the discovery that the mere leaves of some plants will grow under special circumstances—a fact often supposed to be much more rare than it is. *Rochea falcata*, the orange, the *aucuba*, and the fig, are named, by Professor Morren, as instances of leaves which will multiply their leaves; the power of *Bryophyllum* to do the same thing, is a familiar example. *Echeverias* grow immediately from the leaves that naturally fall off even its flower-stalks. Hedwig found the leaves of the Crown Imperial, put into a plant-press, produce bulbs from their surface. The *Ornithogalum thyrsoides*, the *Theophrasta*, the *Cardamine pratensis*, are said to be cultivated thus. Ferns, especially the *Woodwardia radicans*, do the same. It is even said, by Turpin, that water-

* I mean by the neck the bottom of the trunk, just at the surface of the ground, where the roots start out.

cross leaves, cut up by a bird for its nest, "produce presently from their base and below the common petiole, at first two or three colorless roots, then, in their centre, a small, conical bud, from which successively arise all the aerial parts of a new water-cress plant, while the roots multiply and lengthen.

M. Flourens also mentions a case of Purslane, whose leaves, divided into three, produced as many new plants, each having a root, stem, and leaves. In the *Transactions* of the London Horticultural Society, is an account of a *Zamia*, each of whose scales (see figure below) produced a new plant, when the central part of the stem was decayed.

Some leaves of mint (*Mentha piperita*) were planted, without any portion of the substance of the stems upon which they had grown, in small pots, and subjected to artificial heat under glass. They emitted roots, and lived more than twelve months, having natural roots.

In gardens, we have many instances of the same kind. *Hoya*, or the wax plant, is a common instance; *Gesnera*, *Clanthus punicens*, *Gloxinia speciosa*, are also well known, but it is probable that most leaves, when separated from their parent, are incapable of doing so for reasons which we are not yet able to explain. The scales of a bulb will, with some certainty, produce new plants under favorable circumstances, viz: a strong bottom heat, moderate moisture, and a rich, stimulating soil.

Leaves intended for cuttings, should be taken from about the middle of a branch. *Gloxinia*, *Bryophillum*, *Lilies*, &c., may be experimented upon by the amateur.

If we wish to get on very quickly, the midrib on the lower face of the leaf may be broken in several places, without injuring the limb,

and so lightly that the broken places can scarcely be distinguished; the lower face of the leaf is then placed on the earth of a pot. Soon at each fracture a little callus develops itself, which gives rise to roots as seen on next page, *c*. Some leaves, when employed as cuttings, send out roots and buds at each incision, as in *Hemionitis palmata*, *Bryophillum*, &c.; *d*, shows how this effect is produced. Time is required to accomplish this, and especial attention must be paid to burying the end of the petiole, or the base of the leaf; *e*, represents *Theophrasta*



Scale of *Zamia* sprouting.

latifolia with its leaf cut in two, which struck and developed buds; the dotted part, shown in the upper half of the leaf, *e*, was removed, in order to put the leaf



into a little pot, but this did not prevent the success of the cutting. The above is abridged from Dr. Lindley's new edition of his "Theory of Horticulture." *a*, indicates at what place we may cut the leaf without hurting the plant; the leaf being placed in the earth forms a callus at its base, *b*, whence the roots, and, consequently, more shoots, spring up.

THE RECONSTRUCTION OF OUR FORESTS.

MY DEAR HORTICULTURIST: You were so kind as to embody in an article for your November number, on the use of steam power in the more common affairs of life, some thoughts I communicated on the subject.

The season for planting trees is now rapidly approaching, and some facts in connection with pedestrian steam-engines, induces me to ask the favor of submitting a few thoughts on the duty of land owners to plant trees, and plant them this spring.

Though the *Horticulturist* has frequently urged and enjoined this duty in past volumes, it doubtless has many readers in 1857 which it has never had in former years, whose particular attention is desirable, and no old reader will fail to be benefited by having this duty urged upon him again.

The necessity for thus pressing on the notice of your readers the importance of tree planting, was forcibly demonstrated by witnessing the feats of one of these pedestrian engines in cutting up the trunks of large trees into lumber for purposes of utility and necessity. The pedestrian saw-mill is by far the most energetic and terrible devastator of the forest known at present. They are taken to portions of forest or timber which would never be touched if the logs had to be conveyed to watercourse or stationary steam saw-mills.

I do not object to having trees cut down and sawed into lumber for purposes of utility in building and fencing. But how long will the existing forests in

America last, if the terrible havoc now annually made on them is not in some way provided for? This can only be accomplished by planting. We Americans inquire of ourselves in regard to most undertakings, "Will they pay?" and "Will the pay come soon?" The answers to these questions, for the most part, determine our actions. This is especially true as applied to the masses; for here and there we find persons willing to labor and wait for the reward. This is especially true in application to horticulturists and florists.

In my former letter I spoke of the good the steam-engine was capable of accomplishing for agriculturists and horticulturists. Your article called attention to two builders of portable engines, one in Delaware, the other in Ohio. I find on inquiry at the Ohio establishment, that a very large majority of the engines constructed are used for saw-mill purposes—in other words, for the destruction of the forests. *They pay better* is the secret, and so they send out large numbers, annually, on their double mission of *life and death*; life to buildings and improvements, death to the forests.

These pedestrian lumber-cutters appear so insignificant in locomotion, or after locating in the forests, that, without evidence, we could scarcely give them credit for the terrific energy they possess in converting trees into useful and necessary forms of lumber. One pedestrian mill will make *three to five times* as much lumber as any ordinary water-power or stationary steam saw-mill. Almost an acre a day of average forest or timber is required to keep one steadily at work. Yet they are only one of the many agencies at work in destroying our forests. Each year these combined agencies seem to gather new strength for the next, and the secret is, *they pay*. Let your readers, kind *Horticulturist*, make, each for himself, a rough estimate of the surface of our primal forests, each year stripped to feed the pedestrian and local saw-mills; the thousands of steam-engines propelling railway trains and steamers on our rivers, where coal is not to be had; and all the other demands for rails, shingles, fuel, cross-ties, &c. &c., and I think we shall all be of one mind in regard to our duty to take immediate measures to compensate for this energetic destruction. But the loss of the forest brings some secondary results which must not be overlooked, for their importance holds first rank. I allude to the influence on climate and the cereal crops of our country. It is of no use to stave off the consideration of these topics, they must be met, and we of this generation may as well commence to build up, as well as destroy our forests. It must and will have its day of "small things." It must have a starting point, and you, dear *Horticulturist* must lend a helping hand.

Planting trees—trees that are natives—trees that are valuable for fuel alone, as well as valuable for fruits and æsthetic purposes, *will pay, and pay well*. But you, kind reader, who do the planting, may not get the pay, but those who come after you certainly will realize it. Benefits, varied and valuable, almost fabulous in number and kind, will flow to those who come after you, and take your places in this busy world. Money you may get more speedily by cutting down, than planting and cultivating trees during their earlier years. But your money cannot compensate for the absence of trees on our soil. Money has its uses, but it is not omnipotent. It cannot create a forest to furnish wood for utility and beauty; the price of this is time, and toil, and waiting.

Soon the fetters which now hold our soil and watercourses in close embrace will be unclasped by the advancing sun. The tender herb, the beautiful flower, as well as the humble grass, and nobler trees, will again spring into new life. The earth will again be clothed in her magnificent vegetable garniture, gladdening the eye and rejoicing the hearts of us all; while, at the same time, this terrible work of destruction to the forest will go on with redoubled energy.

Let me beseech your readers to commence now the reconstruction of the wasting forests. The time of year in which this can be done is so brief and fleeting, a little hesitation about the resolve to do so, and the moment has gone for another year.

The necessity and utility, coupled with the real pleasure of planting and protecting trees, should lead to immediate action; the ultimate beneficent results will as surely follow as that cause and effect are linked together.

F. C. McELROY.

ZANESVILLE, O., Feb. 1857.

A SELECT LIST OF ORNAMENTAL SHRUBS, VINES, &c.

PLANTERS and improvers are now looking over their lists of garden shrubs, flowers, and vines, and may not object to read in our columns, lists of a few that are valuable, if not indispensable; while they are at the same time hardy, and requiring only common garden soil.

The most desirable hardy, deciduous shrubs: *Forsythia viridissima*; Pink Mezereum, *Daphne mezereum*; Japan Quince, two sorts, white and scarlet, *Cydonia japonica*; Double Almond, *Amygdalus pumila* pl.; Double Purple Tree Paeony, *Paeonia montan Banksii*; White Persian Lilac, *Syringa persica alba*; Chinese White Magnolia, *Magnolia conspicua*; Soulange's Magnolia, *M. soulangeana*; Sweet-scented Magnolia, *M. glauca*; White Fringe Tree, *Chionanthus Virginica*; Garland Deutzia, *Deutzia scabra*; ditto *gracilis*; Broad-leaved Laburnum, *Cytissus laburnum latifolia*; Rose Acacia, *Robinia hispida*; White Tartarian Tree Honeysuckle, *Lonicera tartarica*; Red Tartarian Tree Honeysuckle; Double White Hawthorn, *Crataegus oxyacantha, alba* pl.; Double Pink Hawthorn; Sweet-scented Shrub, *Calycanthus florida*; Dwarf White Horse Chestnut, *Paria macrostachya*; Fragrant Clethra, *Clethra alnifolia*; Oak-leaved Hydrangea, *Hydrangea quercifolia*; Venetian Sumac, *Rhus cotinus*; Purple Burning-bush, *Euonymus atropurpureus*; Buffalo Berry, male and female, *Shepherdia argentea*; *Weigelia rosea* and *amabilis*; *Spiraea Reevesii* and *Flore-pleno*; *Fortuni Billardi* and *Grandiflora*; *Mahonia aquifolium* and *facicularis*; Evergreen Thorn, *Crataegus pyracantha*; the Virginian and Maryland Stuartia, *Stuartia Virginica* and *Marylandica*.

The foregoing will furnish a succession of flowers or ornamental fruit from March to November.

A selection of hardy deciduous shrubs of rapid and bulky growth, suited for masses or screens, for immediate effect, is the following: Common Privet, *Ligustrum vulgare*; Carolina Syringa, *Philadelphus grandiflorus*; English Fly Honeysuckle, *Lonicera xylosticum*; Cornelian Cherry, *Cornus mascula*; Common White Lilac, *Syringa vulgaris alb.*; English Filberts, *Corylus avellana*; Common Buckthorn, *Rhamnus cathartica*; Sea Buckthorn, *Hippophae rhamnoides*.

A few of the finest hardy vines, or climbing shrubs, are the following: Large Flowering Trumpet Creeper, *Bignonia (Tecoma) grandiflora*; Queen of the Prairies Rose, *Rosa rattiaefolia*; Chinese Wistaria, purple and white, *Wistaria sinensis*; Sweet-scented Clematis, *Clematis flammula*; Double Purple Clematis, *C. verticella, pl.*; Monthly Fragrant Honeysuckle, *Lonicera belgica*; Chinese Twining Honeysuckle, *L. flexuosa*; Yellow Monthly Trumpet Honeysuckle, *Lonicera frazerii*.

The following is a list of hardy shrubs, remarkable for the fragrance of their flowers: Mezereum, *Daphne mezereum*; Fragrant Clethra, *Clethra alnifolia*; Missouri Currant, *Ribes aureum*; Sweet-scented Magnolia, *Magnolia glauca*;

Chinese White do., *M. conspicua*; Chinese Purple do., *M. purpurea*; Soulaugé's do., *M. soulangeana*; Common Syringa, *Philadelphus coronarius*; Sweet-scented Shrub, *Calycanthus florida*. Fragrant vines or climbing shrubs: Persian and other Lilacs; sweet-scented Clematis, *C. flammula*; Chinese Wistaria, *Wistaria sinensis*; Chinese Twining Honeysuckle, *Lonicera flernosa*; Monthly Fragrant do., *L. Belgica*; White Jasmine, *Jasminum officinale*.

A list of hardy shrubs that will grow in wet places: Willow-leaved Sporia, *Sporia sulcifolia*; Tomentosa do., *S. tomentosa*; Swamp Globe Flower, *Aphalanthus occidentalis*; Leatherwood, *Dirca palustris*; Sweet Willow, *Salix lucida*, and all other willows; Clethra, *C. alnifolia*; Spicewood, *Laurus benzoin*; Winterberry, *Prinos verticillatus*.

A list of hardy shrubs that will grow in dry, poor soil: Privet, *Ligustrum vulgare*; Buckthorn, *Rhamnus catharticus*; Buffalo-berry, *Shepherdia argentea*; Bloody Dogwood, *Cornus sanguinea*; Snowberry, *Symphoria racemosa*; Jersey Tea, *Ceanothus americanus*, &c.

In planting garden beds, do not forget the *Dielytra spectabilis*.

A selection of plants that will succeed in the shade: *Rhododendrons* and *Kalmias*; *English Ivy*, *Hedera helix*. There are several new varieties of ivy, including the Yellow-berried, the *Ragneriana*, &c. *Aucuba japonica*; the several varieties of *Bor* and *Yew*; the *arbor-vites*, of which the golden, the *filiformis*, &c. Buckthorn, Holly, Missouri Currant and Cornelian Cherry; *Daphne mezereum*; *Clethra alnifolia*; Bloody Dogwood, *Cornus sanguinea*; the Snowberry, *Symphora racemosa*; Junipers; Savin, and *Styrax grandifolium*.

List of hardy evergreen shrubs: American Holly, *Ilex opaca*; *Rhododendrons*, *Ponticum* and *catawbiense*, and the Belgic varieties; Laurel, *Kalmia latifolia*; *Prinos glaber*; Yews, English, Irish, and American; Savin, *Juniperus sabina*; Junipers, of which there are several ornamental varieties; Hemlock Spruce treated as a shrub; *Torreya taxifolia*; Evergreen thorn, *Crategus pyracantha*; *Pinus pumilii*; Weeping Cyprus, *Cupressus pendula*.

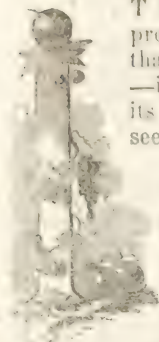
For a list of the newer evergreens, see page 227 of the volume for 1856.

As rapid growing trees, the following may be mentioned: *Populus angulata* and the whole list of *Poplars*; the Dutch or Cork Elm; the American Weeping Elm; the Ash-leaved and Silver Maple.



THE PEAR CONTROVERSY.

BY DR. J. M. WARD.



It is marvellous to what extent controversies are carried on, at the present day, by mutual misrepresentation. Devoutly as I had hoped that the charm thrown around the study and practice of horticulture—its peaceful, love-engendering, purifying influence—would preserve its devotees from the exercise of this spirit; that which I had feared seems at last to have come upon us.

These reflections were excited by a perusal of the communication, in the February number of the *Horticulturist*, misstiled "A Reply to Dr. Ward on Dwarf Pears," and evidently penned by the writer without first having acquainted himself with the contents of the articles referred to. Of this I complain, and not that the articles should be made the subject of criticism. That there was a degree of sensitiveness in the minds of some that would make a bafe allusion to the failures of the pear on the quince a "ripple on the surface of the waters," I well knew; and therefore

it was that I asked that the storm of opposition the examination of the subject would wake up, might not rest, even by implication, on the shoulders of the *Horticulturist*.

The publication of these articles, embodying the result of carefully conducted experiments, I regarded due from myself—a debtor to the cause of horticulture for instruction often enjoyed from the recorded experiments of others in the pages of this journal. They were penned as the result "of the observations of but a solitary individual in his own fruit orchards,"* in the hope, that being made the subject of reflection as well as criticism, the successful trial of many varieties would encourage some, and the failures of other varieties—if such failure could not be accounted for—would serve as beacon-lights to the less experienced; while the idea of the abandonment of the pear stock by the substitution of the quince for the cultivation of this fruit, would appear, in its true light, as an *ignis fatuus*.

I claim to be misrepresented where the language used so clearly conveyed my meaning, that a misstatement subjects the reviewer to the charge of wilful misrepresentation, or else to the more charitable one of having written without having examined the articles reviewed.

Before attempting to substantiate this charge, I would call attention to the closing paragraph, in which Mr. F. more than intimates that I should either cease growing certain varieties of the pear on the quince, or else cease writing against the cultivation on that stock, verily declaring that I object altogether to the use of the quince stock. Again he says: "A certain gentleman who had visited my grounds, had found abundant testimony in favor of the quince stock on my own grounds;" thus intimating, with equal clearness, that I had denied this altogether. Now, do such assertions find support in my recorded views on that point? On page 217, May number, it is written: "A few pears upon quince stocks succeed much better than upon their native stock, and are really so improved in character as to demand their perpetual use," &c.

This charge of *misrepresentation* will now be substantiated by further extracts from the articles alluded to.

* Page 216, May number, Mr. T. suggests that Dr. W. "should have visited other orchards." Would this have helped him in recording the experiments made in his own orchard?

On page 63, February number, it is written :—

"With some varieties I have been eminently successful. The crop during the past season has not only been gratifying to my pride as an orchardist, but has proved eminently remunerative; indeed, the facts will warrant the remark, no crop grown upon the farm has paid so well, in view of the labor bestowed, as a crop of Duchesse d'Angouleme, on the quince.

"The sight of a hundred trees, closely planted in rows, about twenty in a row—each tree resembling its fellow in size and form, and each sustaining as much of a crop as it could prudently be trusted with; the eye here and there lighting upon a specimen with its blushing cheek turned towards the sun, and the whole, when gathered, yielding over twenty bushels—was an argument in favor of dwarf-trees, the force of which the most incredulous could not well withstand."

Again, on page 350, August number :—

"Our experience in this country certainly demands that the Duchess d'Angouleme should, of all others, be cultivated on the quince—the more vigorous growth of the tree—together with the improvement in the quality of the fruit, secures to it, in my judgment, above all others, a substitution of the quince for the pear stock."

Could I have said more in favor of this variety on the quince without exciting a suspicion that I was actuated by other motives than simply giving expression to my honest conviction of its worth?

On page 218, May number, read :—

"In the same year, I planted twenty Louise Bonne of Jersey on quince, all of which are, as to thriftiness of growth, symmetry of proportion, healthfulness of aspect, and productiveness of habit, all that could be desired. These stand contiguous to the failing Bartlett's on quince—indeed, all the above are on the same plat of ground, and the physical condition of the soil, as far as the eye can judge of it, being similar."

On page 217 :—

"Forty other Vicars on quince were planted at the same time on a distant part of the same field, have made most wonderful growth, and have borne more or less every year, and from the rapid development of the wood principle, give promise of long lives of usefulness and profit."

Is not my testimony as to the adaptation of this variety sufficiently explicit? if not, I can add, at the close of another season, that the last year's crop of fruit exceeded *twelve* bushels, very many specimens weighing over a pound apiece.

On page 218, speaking of the three varieties above named, it is said of them : "Which, in their thriftiness and productiveness, have far exceeded all expectation." After quoting the testimony of Mr. Rivers—that most accomplished English pomologist—viz : that out of one thousand varieties of pear in cultivation, he grows but four for the Covent Garden Market; three of these are on pear stock, the Louise Bonne de Jersey alone on quince. I added, page 350, August number :—

"No judge of pears will dare to lift his voice disparagingly to the character of that most rapid growing variety, uniformly bearing abundant crops of well-formed fruit, which, though not of the highest flavor, is yet such a pleasant subacid, as to be a universal favorite."

Now, with such testimony in favor of my successful culture of these varieties of pear on quince stock—testimony corroborating that of our most distinguished pomologists—with what justice should I be arraigned as imperatively "pronouncing against the experience of French cultivators for one hundred years, and the English and American for twenty years?" What advantage will it be to the cause of horticultural science, in searching for the causes of the failure of other varieties, to drag the inquirer after truth through the mazes of suppositions and insinuations as to whether the stocks used were not the *native* instead of the *Angiers Quince*, when it had been distinctly stated (on page 218) that they had

been obtained from two of our most reliable nurserymen, the late Mr. Wilson, of Albany, and Mr. Wm. Reid, of Elizabeth City? And since, moreover, the demonstration that they were true to their character, was found in the fact that the varieties known to be adapted to the quince had given vigorous growth;—or that other unwarranted assertion that they had been planted with the quince stock from two to four inches above the surface of the ground, when not five in a thousand will show the line of junction without searching for it below the surface. Equally unwarrantable was the inference on which was based the assertion that “I complained that my trees blew down.”

If the conversation touching the “exceptions,” reported to Mr. F., and duly credited to me by quotation marks, was faithfully and truly reported to him, charity demands (since I repudiate it altogether) that I regard the communication as made through one of the mediums that abound in this spiritual age. I appeal to that gentleman himself to say if such language as is there ascribed to me, is not irreconcilable with my previously recorded testimony.

Equally gratuitous was the remark that where I had success, it was on the much abused quince stock; for, by far the largest quantity of pears I have grown, have been on the pear stock. This is true of the product this past, as well as of all preceding years. The admission, however, of my success on the quince stock—of my having grown on that stock the largest pear ever known—the acknowledgment of an unaccepted challenge for a comparison of fine fruit, the product of the quince stock—is, in the hands of Mr. F., a two-edged sword, cutting more severely him who wields than the one against whom it is directed; for, in the paragraph above, he says: “The doctor’s treatment of his trees has violated all the laws governing the growth of the pear on the quince.” The admission of success, if not an unfortunate admission, to say the least, is in unfortunate proximity with the charge of “violating, in the treatment of the trees, all the laws governing the growth of the pear on the quince; for, if there be any one fact clearly established in nature—as well in art as in science—it is that success depends upon our obedience to the laws governing that department of science or art.

But the most unkind as well as unwarranted charge is that in which Mr. F. attempts to arraign me against the nurserymen, by representing me as cherishing a “suspicion of their exact truthfulness.” Search the pages of the *Horticulturist*, and there will not be found an expression that will make plausible such an imputation. In a challenge for a comparison of fruit, published in the *Country Gentleman*, I named a *nurseryman* as chairman, with power to add two to the committee, restricting him only to those not engaged in the nursery business. Is the challenge of a *juryman* as to his right to occupy a seat in the juryman’s box, because he has expressed an opinion on the merits of the case, tantamount to a doubt of his *truthfulness*?

Most truly unfortunate is it for the cause sought to be advanced, when the views of an opponent are perverted—his facts stated, misrepresented—his admissions concealed—and his arguments obscured by engendering in the minds of those who are to weigh them, a prejudice against him by arraigning him as “an accuser of his brethren.”

And now, in conclusion, let me say, the facts embodied in the articles claimed to be reviewed, viz: of the successful culture of certain varieties of the pear on the quince, and the failure of others that had enjoyed equal culture on the same plat of ground; the successful culture of certain varieties that ordinarily do well on the quince, that have done well in certain localities on my farm, and that have failed in all other positions—present phenomena that are still unexplained, unless the causes of their success in one position, and their failure in another, is owing

to the physical adaptation of the soil in one instance, and its want of adaptation in the other, to the growth of the quince stock; while the drift of the argument was intended to caution the inexperienced against the indiscriminate engrafting of all the varieties of pear upon the quince, as well as the transfer of even the approved varieties from the garden to the orchard, unless there was transferred with them the high culture of the garden.

Will not my recorded testimony of the excellency of the quince stock for certain varieties of pear—my denial of the use of the native quince stock—of the exposure of the quince stock above the surface of the ground—my denial of ever having suffered loss from the blowing down of my trees—of the conversation touching the “exceptions”—my denial of any wholesale denunciation of the quince stock—make it clear to the reader that Mr. F. was fighting “a man of straw,” instead of contributing his mite toward the settlement of a controverted question?

Kind readers, with a solitary apology for Mr. F., we will dismiss the subject. He is still in the first years of horticultural experience. The golden harvests that glitter in the distance, seemingly near enough to *bewilder*, are yet to be realized. The buoyancy of hope that trees yet under four years of age has inspired, rests upon promises that may never be redeemed. Those promises that now appear to him as “necessitous of success” when airy castle building has given place to stern reality, may be written *promises unredeemed*. When a few more years of observation shall have given age to his experience, may we not hope that, as an *honest inquirer*, he will enlighten us with the facts—the result of his observations in the orchard—instead of giving us theories? When such record is truthfully and faithfully made, it may not be unlike that which is beginning to be made by other cultivators—as unlike the anticipated results as is the present condition of the celebrated orchard of Mr. Rivers, to what we had reason to expect it to be from the glowing description given of it when visited by the lamented Downing.

REPORT OF THE COMMITTEE AD INTERIM OF THE POMOLOGICAL SOCIETY OF GEORGIA.

YOUR Committee would respectfully report that quite a large number of fruits have been submitted to them for examination, the past season, of which several seem worthy of general cultivation. Among these are—

1st. *Princess Paragon Peach*; ripe specimens were received from Peters, Harden & Co., Atlanta, Ga.; ripe August 19. *Fruit*, large, oval—one side larger than the other. *Skin*, downy, yellowish-white, dotted with red, and, in the sun, nearly overspread with dull red. *Flesh*, white, melting and juicy. *Quality*, best. Freestone.

2d. *Baltimore Rove (?) Peach* (from the same parties). *Fruit*, large, roundish, tapering a little to the swollen point, suture extending more than half around. *Skin*, creamy white, with red dots, and a fine red cheek. *Flesh*, greenish-white, red at the stone, to which it adheres, juicy, melting, sweet, and excellent—quite equal to the Old Mixon Cling, with which it ripens, August 24.

3d. *Snow Cling* (also from Peters, Harden & Co.), is a very sweet and juicy Peach, of entirely too small size to merit further propagation; ripe August 20.

4th. *Large White Cling*, from Peters, Harden & Co., bought by them as Stewart's Late, is another Peach of the highest character, ripening about the 20th of August.

5th. *The Long Grape*, from Dr. C. W. Long, Athens, Ga. This fruit was found, over thirty years since, by Col. James Long on his plantation, near Danielsville, Ga. The vine makes a vigorous growth. *Leaf*, is heart-shaped, slightly lobed, and similar in shape to the Lenoir. Bunches of fruit somewhat shouldered, very compact, of medium to large size. *Skin*, thin, dark purple, with a thin bloom. *Berries*, rather small (size of Lenoir), tender, very little pulp, pretty sweet, vinous, and very good. This Grape promises to be valuable for wine, being a most abundant bearer, and producing a good, sparkling wine. Ripens the last of August—three weeks later than Lenoir.

6th. *The Jackson Cling Peach*, a seedling variety, from Mrs. Col. L. A. Franklin, Athens, Ga. *Fruit*, large, oblong, with a very large, swollen point. *Skin*, rich dark yellow, covered with dark red in the sun. *Flesh*, rather firm, orange-yellow, and dark red at the stone, very juicy, sprightly, and rich; distinct from the Lemon and Blanton Cling. *Quality*, best. A delicious Peach, and it is thought unusually hardy, not having failed of a crop in eight years. Ripe August 20.

7th. *Pearl Cling*, also a seedling of Mrs. Franklin; ripens at the same time. *Fruit*, large, round, suture extending three-quarters around the fruit. *Skin*, creamy white, profusely dotted with red, and a rich red cheek. *Flesh*, firm, white, red at the stone, vinous, juicy, and excellent. Very good, or best.

8th. A large seedling Peach (freestone), sent September 1, by J. Van Buren, Clarksville, Ga., similar in form to Heath Cling, was received too green to decide upon its quality.

9th. *Pace or Columbia Peach*. The largest specimen of this variety we have seen this year, was sent, in August 26, by Jeremiah Gray, of Clarke County. Too well known to need description.

10th. A late Summer Apple, also from Mr. Gray, on which we will not report until we get the name.

11th. *Stephenson Cling Peach*, from Thos. Stephenson, of Clarke County, is of the Blood Cling family, hybridized with some light fleshed variety, or as if it is a "half-Indian Peach." *Size*, large, roundish, suture distinct. *Skin*, very downy, of a creamy tint, shaded with flesh color, the tint deepening in the sun, and passing through deep pink to a dark, dull, purplish-red where fully exposed. *Flesh*, white, somewhat tinged with red and deep red at the stone, very tender, melting, juicy, and of a delicious vinous flavor. *Quality*, best. September 1.

12th. *Louise Bonne de Jersey Pear*, from Peters, Harden & Co. Very fine. September 6.

Beurre Bosc, Beurre Diel, and Napoleon Pears, from J. Van Buren. Very fine.

Sarpass Virgalieu, from Peters, Harden & Co., is most delicious.

13th. *Albert's Late Rare Ripe Peach*, from Peters, Harden & Co. *Glands*, globose. *Fruit*, very large, roundish, suture slight. *Skin*, not very downy, yellowish-white, sprinkled with red dots, and with a marbled red cheek. *Flesh*, pale, light red at the stone, very sweet and juicy. Very good. Freestone. September 6.

14th. *Golden*, from Peters, Harden & Co., but not of sufficient merit to justify a description. September 6.

15th. *St. Michael Peach*. *Glands*, reniform. A beautiful Southern variety of the Pace or Columbia type, but rather later and better than that variety; very large and globular. *Skin*, downy, bright yellow, striped and marbled with dull red, suture slight. *Flesh*, yellow, slightly marbled with red, near the apex the red not reaching to the stone, sweet, juicy, and very good, or best. September 10.

White English.—Late White English or Heath. Beautiful specimens of this

noble and well-known cling have been handed in. Those from Gov. W. Lumpkin, Dr. R. D. Moore, Mr. Waddel, Mr. Pridgeon, and Mr. Donnahoo, of Athens, and Peters, Harden & Co., Atlanta, and one of the same class from Mr. Nelson, were all fine. Ripe, gradually from the 6th to the 20th of September.

16th. *To Kalon Grape*, Peters, Harden & Co., ripens early in September, and very good, but said to be a very poor bearer by the growers.

17th. *Bland Grape*, beautiful bunches from Peters, Harden & Co., and from Dr. J. C. Orr, were received, early in September, perfectly ripened. A desirable variety, but requires careful pruning and cultivation.

18th. *Ohio*, from Peters, Harden & Co., is a very fine tasted Grape, but the berries are entirely too small.

19th. *Catawba Grape*; magnificent bunches, from Mr. Axt, through Dr. Linton, the flavor of which did not belie their exterior.

20th. *Raymond Cling*; large, roundish, slightly oblong, suture shallow, but distinct. *Skin*, downy, yellowish-white at apex, but nearly or entirely covered with different shades of red. *Flesh*, white, juicy, vinous, and very good. Ripe, middle of September.

Several seedling Peaches were received at this time from Dr. J. Orr, J. H. Coult, of Athens; R. Nelson, Macon; and Peters, Harden & Co., Atlanta; some which were of large size and good quality, but none quite equal, in flavor, to other varieties ripening at the same season.

21st. A seedling Apple, raised by Mr. Mangum, and sent to the Committee by Peters, Harden & Co. *Fruit*, large, roundish, much flattened. *Stem*, short, in a regular cavity. *Calyx*, open, in a deep basin. *Skin*, yellow striped, and washed with varying shades of red, a few russet specks. *Flesh*, yellowish-white, fine grained, tender, moderately juicy, with a fine, mild Summer Pearmain flavor, very good, or best. Ripe September 12.

22d. *Donnahoo Cling*.—*Glands*, reniform. *Fruit*, very large, roundish, suture quite deep on one side, and visible entirely around the fruit. *Apex*, depressed, or with but a slight, swollen point. *Skin*, creamy white, beautifully dotted, and tinged with red in the sun. *Flesh*, white to the stone, exceedingly juicy, excelling the Heath Cling in tenderness of texture, equally rich and luscious. A most desirable Peach. Ripe September 10th to 20th. Different from Heath in shape, and still better in quality. From Mr. Donnahoo, Clarke County.

23d. *President Church*.—*Glands*, reniform. *Size*, large, roundish, inclining to oval, suture shallow, often a mere line, with a small point at the apex, which is rarely depressed, with pale red in the shade, and beautifully marbled and washed with dark red in the sun; the exposed specimens are nearly covered with dark red; in size and color it somewhat resembles the Late Admiral, and is quite as fine a flavored Peach. *Flesh*, pale red at the stone, very juicy, melting, of delicious flavor, the fruit free from rot. A great acquisition. A seedling, raised by Rev. A. Church, D. D., President of Franklin College, Athens, Ga.

24th. *Oconee Greening Apple*, from Mr. Pridgeon, Athens, Ga. *Fruit*, very large, roundish, flattened. *Skin*, smooth, green, turning to yellow; when ripe, a little brownish in the sun, russet about the stem, with a few scattered russet dots. *Calyx*, open, in a shallow, slightly furrowed basin. *Stalk*, very short, in a rather deep, regular cavity. *Flesh*, yellowish, fine grained, crisp, abounding in a delightful, aromatic, lively, subacid juice. *Quality*, best. Original tree stands on the banks of the Oconee River, a little below Athens. Ripens from October 1st to December.

25th. *Yopp's Favorite Apple*, from Robert Nelson. *Fruit*, large to very large, roundish, somewhat conical. *Skin*, oily, smooth, greenish-yellow, with a blush

in the sun, sprinkled sparingly with russet dots, a little russeted about the stem, and somewhat marbled with dark patches made up of minute black dots. *Calyx*, open, in a deep basin. *Stalk*, short, in a deep cavity. *Flesh*, white, fine grained, tender, juicy, almost melting, and of a most grateful, subacid flavor. From Laurens County, in this State. *Quality*, best.

26th. *Horton's Delicious Peach*, from John T. Grant, Esq., of Walton County. Tree bought of Mr. Camp, of Newton County. *Fruit*, large, round, a little oval, depressed at the apex. *Point*, very small, and within the depression. *Suture*, shallow. *Skin*, moderately downy, of a rich, creamy white, with a faint blush in the sun. *Flesh*, white to the stone, with the exact flavor of a Heath Cling. *Quality*, best. October 10.

27th. *Grant's Cling*.—A clingstone Peach, from Mr. J. T. Grant. *Fruit*, medium to large, oblong, tapering to the prominent point. *Suture*, well marked. *Skin*, pale, creamy white, quite downy, and pretty much covered with dull red. *Flesh*, pale red at the stone, juicy, tender, and, when fully ripe, very good.

28th. *Athenian Cling*, from Henry Hull, Jr., Athens. *Fruit*, very large, oblong, depressed at the apex. *Suture*, a mere line. *Skin*, very downy, yellowish-white, marbled with dull red in the sun. *Flesh*, pale red at the stone, rather firm and rich, of a high vinous flavor. A very great acquisition. This and Horton's Delicious, are the two best October clingstone Peaches, and they are of flavor totally distinct from each other—one, a very sweet and luscious, the other of a brisk and vinous flavor.

As we are closing this report, three promising late peaches have been presented by Mr. Y. L. G. Harris, and a box with a great number of varieties of fine apples has been received from J. Van Buren, Esq., Clarksville. On these the Committee will report hereafter, through the agricultural press.

All of which is respectfully submitted.

WM. N. WHITE, *Chairman*.

Athens, Ga.

(From the *Southern Cultivator*.)

RIBBON GARDENING.

WE frequently see allusions to "Ribbon Gardening" in the foreign papers; the following will attract some of our enthusiasts of beautiful gardens to the subject:—

Among the more recent innovations in flower gardening, the introduction, or rather more general dissemination of what is called the ribbon system of embellishment, is not the least interesting; or in an artistic point of view the least effective. That it is artistic there cannot be a question, for as associated with architectural objects it is an extension of those lines to which the mouldings and various enrichments owe their entire interest. The idea therefore was a happy one which transferred these multiplied lines of color to garden scenery.

Of the form of a ribbon a notion prevails that a straight line only is admissible. I incline to an opposite opinion, and though I have no objection to a straight line in a proper position, yet if I must have my choice, give me by all means a softly curving line, "the line of beauty," rendered still more beautiful by the gentle play of light and shade upon the variously contrasted colors. A ribbon, to be effective, must be of considerable length, and narrow rather than broad—indeed, six to eight feet is wide enough, and beyond that width they present too large a surface of color, and pain rather than please the eye. I have seen ribbons very effective when only three feet wide, but they were planted with plants of proportionate size.

In the counties of Stafford and Salop this system of gardening is perhaps more extensively practised than in any other part of England. At Trentham, as might naturally be expected, the ribbon system is extensively carried out, and the ribbons are very effective. The principal, which stretches the whole length of the kitchen garden, may be said to be the connecting link between the utilitarian and the decorative departments, and emerging as I did from the garden, the "surprise" of that "blaze of bloom" was not only very dazzling, but also highly gratifying. The following is very effective: Back row—Branching Larkspur, blue; *Matricaria grandiflora*, white; *Petunia Shrubland Rose*, rose; *Calceolaria Kayi*, orange; *Myosotis*, blue, and *Saponaria calabrica*, pink, double row intermixed; *Geranium Golden Chain*, green and gold; *Lobelia ramosoides*, double row blue. Where the Golden Chain *Geranium* is not sufficiently plentiful, "Musk" may be substituted with good effect. Mr. Fleming had various modifications of ribbons, and as a hardy one accessible to every one *Eschscholtzia californica*, orange; *Convolvulus minor*, blue; and Musk, yellow; the last abutting upon Grass, looked exceedingly well. I must not omit to mention a rivulet of Forget-me-Not. It apparently meanders in a circuitous route between some specimen evergreen trees, and certainly at a distance the casual observer might mistake it for water. The following is a nice arrangement for a ribbon: Back row—*Salvia patens* and Branching Larkspur intermixed, blue; *Matricaria grandiflora*, white; *Geranium Tom Thumb*, scarlet; *Calceolaria Trentham Brown*, bronzy brown; *Calceolaria Kayi*, orange; *Geranium Manglesi* (variegated), and *Verbena Tweediana* (scarlet), intermixed, white and scarlet; Musk, yellow; *Lobelia ramosoides*, blue, or next the walk Musk, then *Geranium Tom Thumb*, afterwards an excellent variety of double Feverfew (white), and backed by *Dahlia Zelinda*, maroon. These borders were not more than four feet wide, and being full of plants, certainly looked exceedingly well.

Passing on to Enville, the most enchanting ribbon I ever saw was thus formed. The line was a curved one. Back row—*Delphinium Hendersonii*, blue; *Pentstemon gentianoides coccineum*, red scarlet; *Calceolaria Kayi*, orange; *Geranium Cerise Unique*, cerise; *Lobelia speciosa*, blue; *Geranium Golden Chain*, orange variegated. The beautiful play of color in this arrangement was very remarkable. The variegations of the Golden Chain, the flowers being taken off, the cerise of the flowers, coral stems, and peculiar marking of the foliage of the *Cerise Unique*, divided as the two kinds were by a dense line of bright blue, and backed by the Orange *Calceolaria*, was a combination of color the effect of which must be seen to be appreciated. For a narrow ribbon no arrangement could be more effective, but it is not every person that can plant out Golden Chain by the thousand, and those who cannot will find a good substitute in small plants of the Flower of the Day, if the flowers are regularly taken off, and the plants are not permitted to get too tall. The *Cerise Unique*, in this arrangement, will also look best if placed in the full sun; then the stems and leaves get their full color, which is a matter of much importance. I should mention that the preceding ribbon was verged with Grass. Here is another arrangement with a Grass verge: Back row—*Humea elegans*, brown; *Salvia patens*, blue; *Calceolaria Kayi*, orange; ditto, *Indian Chief*, crimson brown; *Geranium Tom Thumb*, scarlet; Forget-me-Not, blue; *Geranium Golden Chain*, orange and green.

I think perhaps the groups at Dudmaston, near Bridgenorth, were still more beautiful. Nothing could exceed them, and I never saw beds so perfectly sheeted with bloom. The garden is small, as compared with those previously mentioned, but the whole of the shrubby borders were ribboned, and standing as you could at one point, and take in almost the whole of the garden, nearly a mile of ribbon

was presented to view; and certainly the *comp d'ail* was most enchanting. The Variegated Alyssum was very extensively used next the Grass, but in adjoining walks blue Lobelia was introduced. The following is a very nice ribbon: Back row—Dahlia Zelinda, maroon; Calceolaria Kayi, orange; Verbena Tweediana, scarlet; Variegated Alyssum, white. Another very nice pattern was: Back row—Pentstemon gentianoides coccineum, Scarlet and White Phlox mixed, scarlet and white; Calceolaria Kayi, orange; Geranium Tom Thumb, scarlet; Lobelia ramosoides, blue; Alyssum, Variegated, white.

In gardens of strictly architectural design, plain and variegated Hollies, plain and variegated shrubs of all kinds, hardy Heaths, and many hardy American shrubs, offer great facilities for the ribbon system; and I doubt not before many years pass we shall see such ribbons planted extensively. The planter, however, of a ribbon must not stick in his plants at equal distances, and think the ribbon will come without further trouble. The line of demarcation of each color must be strictly preserved, for if the various lines of color are allowed to intermix, the effect, and, in fact, intention, will be marred at once. It is upon keeping the various lines of color perfectly independent of each other, touching but not intermixing, that the whole success of the system hinges; and those who cannot devote sufficient attention to that particular, had better not attempt the plan.

A. P. W., in *Cottage Gardener*.

THE TRUE THEORY OF GRAFTS.

BY LOGOS, PHILADELPHIA.

EDITOR OF THE HORTICULTURIST—

DEAR SIR: A paper headed as above, in the December No., has very much interested me, as it confirms me in the same idea which I have held for some time. I must tell you that I am one of those who care little to know how any operation in this business is performed, unless they can at the same time be permitted to know the reason why. Believing that there are many such among your readers, I make no apology for endeavoring to keep the subject before them.

That *each cell must have its own inherent power of secretion*, has often struck me. I once saw a white Muscat of Alexandria grape, grafted on the end of a cane of the black Hamburg. It of course always bore white Muscat grapes, in every shade of color, every form, and every peculiarity of taste the same as other Muscats not grafted; yet all its sap had to be drawn through the cells or sap vessels of the Hamburg. If the first had the power of forming its own peculiar secretions so as to retain its exact distinctiveness, why should the wood-producing principle be deemed an exception?

If *wood was formed, corporeally, from above downwards*, would it not in time so encase the wood of the stock, that when a shoot sprung out of what was once the stock, it would be of the same character as the scion? For I have never understood that physiologists believe that the bud or eye producing shoot, proceeds, in all cases, through from the pith, as the heart or pith of trees is often dead and rotten many years before the outsides begin to decay.

Satisfied that the true theory of grafting is now settled, I give the following *chip* for what it is worth, in return for the information I have received:—

Two years ago I received a lot of pear grafts from a distant friend. They were buried in the ground at the ends, so as to preserve them a few weeks till the season was further advanced. When that came, the closest search could not find them. In July, while budding pears, I “ran against” these grafts. They appeared

green and tolerably fresh, so I budded them, as I would do with young wood. Every bud had started to grow immediately, and made, on an average, shoots a foot long before fall. The result was that, though I had not quite as strong plants as I should have had by March grafting, I had double the quantity I should have had, besides no failures. I think my practical friends may probably turn this fact to some account.

While on the subject, I would like to inquire on what *theory* root-grafting apples is supposed to render them less hardy or vigorous, as I see Mr. Hovey and others hold. I have compared seedling Kentucky coffee's, alianthus' and Paulownias, with others raised from pieces of roots, and can trace no difference in their relative vigor or hardiness; nor can I see any difference in the vigor or hardiness of a root-grafted rose over one grafted in any other way. But even could I see any difference, I should not rest satisfied with the impression that "I could attribute it to nothing else," unless I could see some trace of a physiological reason why it should be so, which I confess I cannot do. I should be glad if some of our friends who hold Mr. Hovey's view would enlighten us.

NEW PLANTS.

PINUS GRENVILLEÆ. Nat. Ord. *Coniferae*.—A noble Conifer, discovered by Mr. Hartweg, on some of the highest mountains near Tepic, in Mexico. It is of robust habit, and has in consequence been called "Ocote macho," or male Pine, by the natives. The foliage is very robust, from twelve to fifteen inches in length; leaves are in fives. The cones are solitary, pendulous, straight, sixteen inches long, and three to four inches across the base. This species is easily distinguishable, from its straight cones and robust foliage. In its native habitat it attains to the height of seventy to eighty feet. It has been named in honor of the Right Honorable Lady Grenville.—*Hort. Soc. Journ.*

PINUS GORDONIANA. Nat. Ord. *Coniferae*.—A companion to the last-named species, introduced by the same gentleman, from the same locality. It is a remarkably handsome species, possessing the longest foliage of any of the tribe yet brought to this country. It attains about the same height as its predecessor. It is called "Ocote hembra," or female Pine, by the natives. The leaves are produced in fives, are sixteen inches in length, not so robust as in *P. Grenvilleæ*, and of a light green. The cones are pendulous, generally solitary, from four to five inches in length, and one inch and a half at the base; they are slightly curved, and regularly tapering. It is named in compliment to Mr. Gordon, of the Horticultural Society's Garden. It is quite hardy, and is a splendid species, the long slender foliage rendering it an attractive object.—*Ibid.*

LACHENALIA AUREA. Nat. Ord. *Asphodeleæ*.—The Horticultural Society purchased this beautiful species of a collector, who discovered it in Natal. It first bloomed in the greenhouse at Chiswick, last spring. It is remarkable for the length of time it remains in flower, a much longer period than any other of this much-neglected genus; although the *Lachenalia* is of as easy a culture as the Hyacinth and other spring bulbs, we very seldom meet with them in the greenhouse. The numerous broad flaccid leaves, which are a lively green, slightly mottled with purple, fall back upon the ground, and the scapes, which are of the same mottled colors, rise erect to the height of near two feet, profusely laden with its brilliant golden yellow tubular flowers. The individual blooms are much larger than those of *L. tricolor* (the most common species), and are of a firm waxy substance. This species deserves to be in every greenhouse.—*Gard. Chron.*

ON THE HABITS OF THE GOPHER OF ILLINOIS.

Geomys bursarius.

BY J. B. PARVIN, ILLINOIS COLLEGE.

I SEND to the Institution a young Gopher, a little more than half grown, which I hope will reach you in safety. If he arrives alive, take a flour barrel and fill it half full of moist earth, potatoes, corn, or beets, at the bottom, for food, and he will dig down and help himself, if the earth is compact, so that he can make a hole in it without its caving in upon him. I have never seen them drink; but it will be well to set a dish of water where he can come out on the top of the earth and drink it. Keep the barrel covered loosely, but so that he cannot climb out; and set it on a floor or plank, so that, if he should get out, he need not get easily into the ground. His habits of digging and eating you will see only by careful watching in the barrel. He uses his paws and his pouches to carry both dirt and food. He digs long holes in the ground, extending sometimes for rods or even miles, about two feet below the surface, and at suitable distances makes side cuts, at an angle of about 45° , running from the longitudinal main track up to the surface. Through these side cuts he carries up the dirt from the trunk below, as long as he finds it convenient to retain it, in his pouches; then he turns back, and fills this side cut full of quite hard earth down to his main trenches, and then makes another and another side cut further on, filling all these up, and stopping every crevice where light or air can enter, so that his abode, when finished, is one long, winding passage, wholly excluded from all light and air, from one to three or four, perhaps more feet under ground—generally about two feet, except in places where it is made deeper, to deposit food in piles, or to procure water. In these subterranean passages he lives at all times, and gathers food, roots, &c., in summer, and stores them in large, deep holes for winter. He is never seen above ground, except in the rare cases when food becomes scarce in one field, or for some other cause he prefers another; then, he will sometimes condescend to walk a part of the way above ground, rather than persevere in his migration by digging below, and then, for most part, only in the night. Whether they live in droves or families, or only in pairs, is uncertain; but if two strange gophers are put together, they at once attack each other, and the victor devours his antagonist. I cannot, therefore, send you a pair at once, as I promised; and this is the first and only one I have seen this summer, except one killed and mangled in taking, so thoroughly did my boys wage their war of extermination on them last year. I will watch for more in the spring, if wanted. I have not time now for a more particular description, but will answer in future any questions desired. You are aware of its mischievous destruction of hedges and fruit-trees, as also of clover and all root crops.—*Smithsonian Transactions.*

ARE THE FLOWERS OF THE AZALEA POISONOUS?

BY T. M.

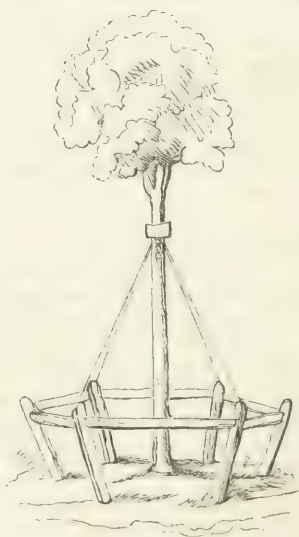
A SHORT time since, I endeavored to rescue the *Kalmia* from what I believed the unjust reputation of being poisonons. I notice that the English horticulturists are now in a flutter about the *Rhododendron*. They say that honey extracted by bees from its flowers, is poisonous. Dr. Lindley, in combating the notion, admits that it is so in the case of the *Azalea*, but not in the *Rhododendron*. Now,

sir, I do think there is some mistake in such an admission. As I observed, when writing of the *Kalmia*, I believe that poisons are destructive, in more or less degree, to all animals alike. If the honey secreted by the bee, from this source, be so poisonous to man, why is it not poisonous to the bees themselves? One would think that, in the act of secretion, such poisonous material would be destructive to the life of the bee; unless, as I presume few people in this enlightened age believe, the bee were to gather the honey, and place it in his "bag" as an apple gatherer would put the fruit in his pouch. I may be "all wrong," but "that is my impression."

PROTECTING TREES FROM CATTLE.

THE beauty of individual specimens, as well as groups of trees, is often marred, to a great extent, by the means employed to protect them from cattle. None of these are more objectionable than the abomination termed a crate. Where such heavy-looking and unsightly objects are thickly placed, as they often are, the effect is disagreeable in the extreme, and as they have to be endured for years, any substitute that will afford equal protection without their objectionable appearance, should be readily adopted.

The accompanying sketch illustrates a contrivance which combines both support and protection from cattle, and is also neat in appearance. This fence, by being entirely below the eye, is very little seen, and the supports of the tree, being of wire, are scarcely to be distinguished, except upon close examination. If the whole were of iron, it would, of course, be still less objectionable, on the score of appearance. The uprights of the fence, as given in the sketch, are supposed to be stout piles, six in number, driven into the ground at an angle of about 45° , at a sufficient distance from the tree to prevent cattle from reaching the stem or branches. The uprights should be about three feet six inches out of the ground. They are connected by rails placed horizontally, and sufficiently close to prevent sheep from getting between them. From the tops of three or four of these uprights, stout wires are fixed, the upper ends meeting at the tree, where they are attached to a collar, which should be somewhat larger than the stem it is to surround; the intervening space is then to be filled with leaves, hay, or moss, and properly secured, to prevent damage to the bark. These wire supports are, of course, only required when the tree is newly planted: by employing them, stakes—which are rarely effective, and always objectionable in appearance—are entirely dispensed with.



EVERGREENS.—WHAT SHALL WE PLANT?

Mr. Buist's Catalogue.—(Concluded.)

The *Euonymus*, till last winter, was considered here so nearly hardy, as to be adopted; it occasionally lost a limb, but was, last year, entirely destroyed; still, it may be again planted, with a prospect of success; the green is much more desirable than the variegated, and is a superb shrub.

"*Euonymus*, Evergreen Chinese Spindle-Tree. A dwarf shrub, that grows freely in the shade or sun; makes a beautiful hedge south of Philadelphia, growing in any soil; height, eight to ten feet. In ornamental gardening, it is with us as the Holly is in England, indispensable.

"*Fitz-Roya Patagonica*, a new Evergreen, with drooping branches; supposed to be hardy here.

"*Ilex*, Holly. Beautiful Evergreens, that do well in Southern latitudes, and tolerably hardy in this vicinity, when protected from the sun in winter. For diversity of character and beauty of foliage, no family surpasses it; it delights in rich soil; many varieties, and our native *Opaca* not to be forgotten.

"*Juniperus*. The Juniper is a very classical plant, being frequently mentioned by, and highly esteemed amongst the ancients. It luxuriates in every temperate country, even on the most barren soils, being an important feature in all rugged countries—growing on any soil or situation, even under the drip of trees. The plants generally attain a height of ten to twenty feet; many varieties.

"*Kalmia*, Sheep Laurel. The broad-leaved Sheep Laurel, or *Kalmia latifolia*, is common in all moist or shady woods of the Middle and Eastern States. Its beautifully white and pink crimped blossoms resting on a bed of the richest green, are truly elegant. A dwarf bush.

"*Laureus*, Laurel Bay. Plants with very thick, coriaceous leaves, generally of a spicy fragrance; grow well in any soil, but are too tender for culture in the Middle States; height, from six to twelve feet.

"*Ligustrum*, Prim or Privet. Shrubs with beautiful, dark, shining green leaves: they are often sheared into various forms, and make very agreeable fancy hedges; will grow in shade or sunshine; in height, from six to twelve feet.

"*Libocedrus, chilensis*. This genus is closely related to *Thuja*, very recently introduced from the mountains of Chili; it has a beautiful silvery soft green appearance, and will grow from ten to fifteen feet; scarce yet.

"*Magnolia*, the Tree Laurel of the South. Whether regarded for the richness of its foliage, the beauty of its flower, or the majestic habit of the tree, it has no superior, and is everywhere hardy south of Philadelphia and Cincinnati. It attains a height of forty to eighty feet; requires deep, rich soil.

"*Mespilus*, Pyracantha, or Evergreen Thorn. There is not a more beautiful plant during our autumnal and early winter months: neither is there a more neglected one than the present subject; thickly studded with its beautiful coral berries, it forms a very attractive bush or pillar.

"*Philesia*. A very limited and little known family of plants. This is the first species of the genus introduced to this country. The plant has a high reputation in Europe; we hope it may prove as popular here. The foliage is neat, and the flower large in proportion. *Buxifolia*, *Buxus*, or Box-leaved, small.

"*Picea*, Balsam Fir. This tribe differs in its natural habitat from *Abies* or Spruce, from its growing in lower situations, and will luxuriate in rich moisture where *Abies* would die; they will grow from 50 to 200 feet high. *Balsamea*, Balm of Gilead Fir. *Cephalonica*, Black Silver Fir. *Frazeri*, Frazer's, ditto. *Nobilis*, a very symmetrical, majestic tree. *Pectinata*, Silver Fir. *Pichia*, Pitch Silver Fir. *Pindrow*, Tooth-leaved Silver Fir. *Pinsapo*, the Spanish Silver Fir. *Webbiana*, the Purple-Coned Silver Fir.

"*Pinus*, Pine-Tree. The Pine-tree grows in every region of the world, from the waves of the ocean to the icy regions of perpetual snow. All the species belonging to the genus are distinguished by the great length of their leaves, which are produced in bundles of two, three, or five, inclosed in a sheath. The cones also are generally erect. The trees, judiciously selected, are suitable for planting in every situation; they generally attain a height of from

50 to 100 feet, though we have them that have not grown four feet in twenty years, whilst others have grown as much in one year. *Austriaca*, Austrian or Black Pine; very desirable. *Cembra*, the Cembrian Pine, conical habit. *Excelsa*, the Bhotan Pine. *Hartwegii*, Hartweg's Mexican Pine. *Laricio*, Corsican or Larch Pine. *Lambertiana*, Lambert's Rocky Mountain Pine. *Macrocarpa*, the Great Hooked Pine. *Monticola*, the Mountain Pine. *Mughus*, Mugho Pine. *Pinaster*, Cluster Pine. *Ponderosa*, the Heavy-Wooded Pine. *Strobus*, the White or Weymouth Pine. *Sylvestris*, Scotch Pine or Fir. *Webbiana*.

"*Podocarpus*, Chinese Yew. A family of hard-wooded evergreen plants, well known to the gardener. The species now offered to notice, is the most useful for out-door cultivation, and, indeed, the only one capable of enduring our winters; several of them are desirable greenhouse shrubs. *Taxifolia*, Yew-leaved.

"*Prunus*. The species of this genus are, generally speaking, more useful than ornamental; that now under notice is a valuable acquisition, suited to our climate, and quite desirable. *Licifolia*, Holly-leaved, or Californian Evergreen Plum.

"*Rhododendron*, Mountain Laurel or Rosebay. As many say they find great difficulty in cultivating this plant in the open air, we give a few hints, which, if acted upon, will result in success. That they grow in 'wild luxuriance,' every one who has visited our mountains can testify; their locality there, is on the northern shady moist steep. We find that they grow well in one-half sandy loam, one-quarter rotten leaves, one-eighth sand, one-eighth well-decayed manure; plant them in the shade of, or partially under, trees on the north side of buildings or fences, in deep, moist soil, or where it can be frequently watered. They are all beautiful, and grow from four to ten feet high, blooming in May or June.

"*Taxodium, sempervirens*, or Weeping Cypress; rather tender with us; the winter of 1851 killed them down to the ground: they are perfectly hardy South, and form a very beautiful tree of rapid growth. It is the 'Red Wood' of California, and there attains a height of from 200 to 300 feet.

"*Taxus*. The Yew-tree is everywhere known, and most frequently chosen for cemetery planting—an 'Evergreen' in memory of the departed. One of the species is used as the badge of the Scottish Highland clan Frazer. The Yew is a plant of comparatively slow growth, though in good, moist, 'but not wet' ground, where it makes rapid progress, it attains a height of from twenty to forty feet: it is frequently used for hedges.

"*Thuja, Arbor-Vitæ*. One of the most recent changes adopted by botanists, is the naming of this well-known family, *Biota*. Whoever reads of and orders *Biota occidentalis*, will recognize our beautiful American Arbor-Vitæ. The whole genus is highly deserving of culture, and the various species form ornamental plants of from five to fifteen feet in height; some are well adapted for hedges; they may be trimmed at any period of the year, and will grow in any soil.

"*Torreya taxifolia*, Florida Yew. A shrub of medium growth, perfectly hardy with us, of a branching habit, small.

"*Washingtonia, gigantea*, the *Big Tree* of California. A tree of rapid and robust growth.

"*Yucca, Adam's Needle*. Low-growing plants that shoot up spikes four to eight feet long, of white flowers; not generally adapted for planting with other Evergreens, but are used with good effect on lawns, terraces, or rockwork."

Mr. Buist's list of deciduous trees is also extensive, as are those of Grapes, Strawberries, and greenhouse plants.

The industry and intelligence which have built up the extensive business of Mr. Buist, are exactly such as we would hold up as an example to young nurserymen. Mr. B. has been indefatigable in every department, working early and late with his men, and having no idle hour from year's end to year's end. It is pleasant to record that eminent success has attended his career, and that his large establishment at Rosedale, a short distance below Philadelphia, has no superior in America.



EDITORS TABLE.

[THE APRIL HORTICULTURIST has been partly printed without the supervision of the press by the Editor, who was passing a short time in Cuba. This will account for any apparent omissions of the favors of correspondents, as well as excuse errors or deficiencies. As but few of the tourists to Cuba who have written upon this interesting tropical region have had an eye for its gardening beauties, we may hope for some descriptions which will interest the readers of this work.

PUBLISHER.

TO ADVERTISERS.—We were reluctantly compelled to exclude about a dozen pages of advertisements from the March number, for want of room. Advertisers should send early in the month to secure a place.

PUBLISHER.]

GREAT SALE OF GREENHOUSE PLANTS.—By reference to the advertisements, it will be seen that there will be one of the largest sales of plants in this city, in May next, that has ever taken place here. The fine collection belonging to that enthusiastic lover of horticulture, Caleb Cope, Esq., is to be then dispersed by auction. Embracing as it does an immense variety of plants, we may specify the camellias, cactus tribes, and the orchids, as superior in all respects. We call especial attention to the sale, and anticipate seeing a large audience of amateurs from all parts of our gardening world.

ELVASTON CASTLE, the seat of the Earl of Harrington, near Derby, in England, has long been one of the wonders of that country, but till lately was a sealed book, no one being admitted but the family and immediate friends. Mr. Downing was obliged to be contented with a peep from the neighboring steeple! Mr. Buist, however, as an old friend of the gardener, gained admission, and stayed all night, most of which he employed in roaming about among its surpassing beauties. At our request he has thrown his recollections into the form of a very good and graphic description, which shall appear in these columns very soon.

ROSES.—A select list of roses: La Reine, Baronne Prevost, William Jesse, Souvenir de la Malmaison, Coupe d'Hebe, Madame Masson, Madame Vidot, Prince Leon, Lord Raglan, Paul Ricaut, Madame Domage, General Jacqueminot, General Castellane, Paul's Victoria, Auguste Mie, Caroline de Sansal, Duchess of Sutherland, Gloire de Dijon, Cloth of Gold, Doctor Herron, General Pelissier, General Simpson, Madame Knorr, Mathurin Regnier, Peonia, Pauline Sansezeur, Souvenir de la Reine d'Angleterre, Toujours fleuri, Triomphe D'Avranches, Triomphe de l'Exposition, Impératrice Eugénie. We give some of the above more to accustom the reader to their names than anything else; being quite new in France and England, they must be rare in America as yet.

THE REBECCA GRAPE.—The entire stock of Mr. Brooksbank's Rebecca Grape was exhausted some weeks ago. He informs us that he will have plants in the autumn.

GREAT YIELD.—An example of an enormous yield in a pear-tree in Devonshire, is thus mentioned in the *Cottage Gardener*—the kind was the Windsor: "The branches of the tree commenced at seven feet from the ground, where the tree is about a foot in diameter. It has been planted thirty years, and in the summer referred to it produced 5,500 pears. So great was the weight, that, notwithstanding it was supported by numerous strong props, the tree was split in two in the bole, beginning where the branches spring off, and extending for two feet down the stem, leaving a yawning chasm in which a man's head could be placed. The split portions of the tree were afterwards drawn together by strong iron bolts."

A TWO-POUND STRAWBERRY!—We take the following as we find it from the *London Illustrated News*, where it appears as if in good faith:—

"*New Plants and Fruits of Messrs. Martin.*—Whatever jealousy we may have had of the extension of French dominion on the Mediterranean some years ago, there can be no doubt that the conquest of Algeria, and the gradual occupation of the districts behind, have been productive of great accessions of knowledge of the vegetable kingdom of Africa; and a visit to the establishment of Messrs. Martin, of Paris, at their temporary depot in New Bond Street, has acquainted us with several specimens of fruit which created astonishment; while the new plants from the Atlas region, as well as some from California, show the singular richness of the vegetable kingdom in those remote and hitherto little-explored mountain regions.

"Louis Martin, born at Venose, in the department of the Isère, was gardener to Prince Torlonia, the eminent banker of Rome; and, desiring to know more of the highland regions to which access had been procured by the activity and valor of his fellow-countrymen in Algeria, proceeded to Africa with other amateurs; and we have here some of the plants sent to Paris, as well as some others from California, and fruits from the South of France, which have created much admiration on the other side of the Channel, and which are here only beginning to be known to the general amateurs of this delightful pursuit.

"Of the fruits in the catalogue we are most struck with the *Belle Inexagore*, from the nursery of M. Audibert, of Tarascon—a pear of extraordinary delicacy of flavor, weighing between two and three pounds; also the *Bergamotte d'Oisan* and *Beurré Martin*, of the same weight. The peach of Oran is of great size, and small soft heart. The plums of Oran are also very fine; but it is admitted that in size and flavor they are beaten by the English plum of our best horticulturists. The cherries of Tlemecen, perfected in France (*Cerise Creole*), have bunches weighing two pounds. The Avocatier, from California, has the taste of fresh butter, the large green fruit attaining the weight of no less than six pounds. The Carambolier is of great beauty (*Averrhoa*), tasting like honey, and the fruit of a bright yellow. To which we may add the Pomme d'Acajou (*Anacardium*), or "heartless Mahogany Apple," the kernel being altogether outside, tasting like a delicate almond, and the fruit itself luscious. Perhaps none is more remarkable than the Strawberry of Morocco, from the spurs of the Atlas, a tree with a trunk, which produces a monster specimen of the usual strawberry, two pounds weight and five inches in diameter. It resembles the Ananas Muricata of California, but has a much more delicate taste. [Where is Peabody's Seedling?]

"From the same vast region of unexplored forests, defended by the feline beast of prey and the formidable serpent, we have the finest specimen of the gentian family we have seen. The Calypso Africana, of the most beautiful pyramidal construction, the cups of the most exquisite velvet-like tissue, and of a deep palpitating cerulean blue color. We have also from the Atlas the *Lilium Lancifolium Auranthum*, a lily that looks exactly like the skin of one of those panthers that guard this mainland Garden of the Hesperides. We have far from exhausted the catalogue of these novelties; but enough has been said to indicate the value of the plants which can be procured at this establishment."

WIGELIA AMABILIS.—A correspondent at Baltimore writes as follows: "I notice the *Horticultural Journals* lay great stress on the *Wigelia Amabilis* blooming late. My plant, now standing out two years, and in a sunny aspect, has both seasons bloomed twice—in May, and again in September—one as profuse as the other. I also find great difference between the blooms of it and *W. rosea*; the latter is in bunches of four or six upright flowers, while the *Amabilis* forms pendulous heads of a dozen or more blooms like *Deutzia gracilis*."

APONOGETON DISTACHYON.—Some of our friends have of late years paid deserved attention to the introduction of aquatic plants, and, amongst other discoveries, have found the *Nelumbium luteum* to be hardy enough to stand our winters, and growing in abundance near Philadelphia. We cannot have too many hardy water plants, and the one named at the head of this paragraph is a very desirable kind. Its flowers are as fragrant as those of *Magnolia glauca*, and are produced very abundantly. Though a native of the Cape of Good Hope, it is hardy in England, and feels so well satisfied with France as to become quite naturalized in some of her rivers.

Books.—In answer to D. A. W., we may say that no copy of the work mentioned ever reached our "Table;" it was, however, bought, and noticed on its own merits, and this course we greatly prefer to having any inducement in the way of a bookseller's donation; it leaves us entirely free to notice such books as are of interest to our readers, without bias. The source of profit from books received by editors, is beneath their notice, and results, more frequently than not, in puffing the most worthless trash that it is well possible to print; every editor who lends himself to such measures, does himself and the public a great wrong. We have labored long to convince all concerned of their error, and it is at length better understood that all such notices bring with them their own condemnation. A *library*, so called, is known to us, containing thousands of volumes presented in this way, and we very much doubt if any bookseller in the Union would give more for the lot than the price of waste paper.

COL. WILDER has entered the arena against Mr. W. S. Stoms, of Cincinnati, on the dwarf pear controversy which we so innocently started. The Colonel offers to meet Mr. S. at any Boston station, with a carriage and *pear* of horses, and drive him all about Boston, Salem, and Concord, at the proper time of year, and exhibit to him all the dwarfs on record there-away. This is an offer not to be neglected, and Mr. Stoms will, we have no doubt, avail himself of it in due season. The same thing was done to a near friend of the *Horticulturist*, last year, to his great delight. A monthly periodical, called the *Cincinnatus* (no doubt, because it never expects to be called from the plough which it drives so ably), contains this new breeze, which we are pleased to find blowing at such a safe distance from Philadelphia.

The flower of the Downing Camellia reached our "Table" by the kindness of Mr. Rauch; it is unquestionably one of the most beautiful and delicate we have ever seen.

RULES FOR SHOWING A GARDEN.—"There are two rules for taking a party over a garden," says a modern writer, "which, if violated in any one instance, will do infinite harm in respect to the best effect. The first is, *never—never*—to take strangers over your garden *against the sun*. It is worse than throwing dust in their eyes, if there is an 'eye' amongst them; and the second rule is, to be sure not to let strangers see the best parts of the garden first. Take them to *moderado* first, then let each turn reveal a better scene than the last, and let the last itself be the grand climax. As long as they live, if they are worthy to live on gardening, they will never forget the good impression."

MR. E. SANDERS, of Albany, and his brother, are about to commence business in Chicago. Choice flowers, shrubs, and trees, will, we have no doubt, be found wherever they may set up their tent.

SOAP BY THE SAPONIFIER.—Every housekeeper is talking about "the Saponifier," and, as we like to chronicle what is passing about us, we may as well state that the grocers have for sale the "Keystone State Saponifier," in pound canisters, each canister sufficiently strong in caustic soda to make half a barrel of excellent soft soap in a few minutes, and hard soap *ad libitum*. It is made at Tarentum, Alleghany County, Pa., by the Pennsylvania Salt Company, probably by the following process: Oil of vitriol decomposes the salt, and forms a sulphate of soda, which is decomposed by caustic baryta or strontia, and thus makes a nearly pure caustic soda. It is in general use, and the demand at nineteen cents a canister is equal to the power of making it, so that it is not advertised. Housekeepers are now enabled to use up their own soap-fat economically.

LEAVES FOR LEAF-MOULD.—Nothing can answer better than Elm and Sycamore. Beech is more valuable for giving heat, and keeps longer, and, therefore, it requires more time to rot into mould. Oak-leaves are the most lasting; but they require two years, at least, to make good leaf-mould, just because they are so lasting for hotbeds, and also because containing so much gallic acid. We find nothing comes amiss for this purpose except the Fir or Pine tribe, and even they are useful for some purposes if kept long enough. The softest leaves that you gather, even though you ferment them by throwing them into a heap, and turn that heap frequently, will require the greater part of a twelvemonth to be in nice order for potting, though I have used them, after being well fermented, and then dried in cakes, in less than six months. If you want a stock early, keep your Maple, Sycamore, Ash, and Elm together by themselves. As stated, Oak are the most lasting for beds and giving bottom-heat.

P. W.

SILVER SPRINGS, FLORIDA, February 11, 1857.

J. JAY SMITH, ESQ.—DEAR SIR: Florida ought to be visited in winter, by our Northern friends. It is indeed a most delightful climate. Every day, here, has been a glorious, sunny day. We have been all the time visiting springs, plantations and sugar manufactories, besides a good deal of shooting and boating. We visited first the Orange Springs, a most beautiful location, with all the features of a tropical landscape. Palmettos of all kind are there in profusion; the groves are covered with *Magnoliæ glaucæ* of large size and beautiful appearance—some measuring from 10 to 14 feet in circumference, straight and tall as arrows; oranges, red and white bay, myrtles, live oaks, *Laurus Carolinensis*, &c. To-day we saw a *Cupressus disticha*, which my wife wanted to have measured; it was 23½ feet in circumference! The hammocks are densely filled with such vegetable giants. Vines and creepers of all sorts run from tree to tree. They are almost all now swelling their buds; some have their foliage almost developed; the yellow jasmine is in blossom, and the elder and wild plum are in their spring dress. I saw two families of the *Erica*, which I did not find in any other place. The aspect of their hammocks, as they call those evergreen forests, is truly magnificent. Sometimes a road runs in the middle of one of these groves, and the scenery is then almost tropical.

Orange Springs has a peculiar appearance, by the profusion of its palm trees. The spring is clear, and abundant with a fine, large basin, but it is very sulphurous. Silver Springs, which I should rather call Emerald, are more to my taste. The springs form a large basin of about five acres, which, in some parts, has a depth of about 40 to 50 feet. The bottom is varied with aquatic plants and mosses, and pure marl or shell limestone. The plants are

of that bright bluish green which you see in the large bottles in your drug stores by gas-light. The limestone is still more brilliant; it is a rich display of prismatic colors, dazzling the eye, but the predominant color is always that bright, lovely emerald. I had a fine bath in that noble basin. The temperature of the water seemed to me to be about 60°. Some very large trout are found in it. If there was a good road, and more convenient accommodation, I have no doubt it would soon be a place of resort, in winter, for such as, like myself, deem your northern winters rather too trying.

Of fruit and fruit trees I have seen but little in Florida. Orange groves are numerous enough, but they are most of the bitter, wild fruit. In southern Georgia a small insect is playing great havoc among the plantations, but here it seems to be unknown, at least no body could tell one anything about it. Peaches would be in great abundance if the inhabitants would go to the trouble of planting them. Fig-trees are more cultivated, but you can ride over scores of miles without such a *useless* thing as a fruit tree. Cotton is all in all. Strange to say, in a climate where good fruit would be such an effectual preventive of bilious diseases, no fruit, and *few*, very few vegetables, are found.

The soil of Florida is almost uniformly sandy, very sandy, with substrata of marl and phosphatic limestone, in the hammocks. Vegetation is most luxuriant where this substance prevails. It is almost the only building stone found over the country. I am going back to Ocala, and from there to some plantations, till your snow is gone. Ocala is a most beautiful little town, as far as location and scenery are concerned. The walks all round are splendid, in the midst of the magnolias and palmettos; with the exception of those hammocks, all the rest is one vast forest of broad-leaved pine; some lakes and very few streams and plantations—few and far between. But the mildness of the climate is such that we sleep with open windows. The thermometer for a week past has been up to from 60° to 80° at noon, with a pure sky and calm, balmy weather. It has frozen this winter in Florida. Oleanders are nearly killed, but I see no harm done to evergreens.

Gossip.—A horsechestnut tree in full flower has been not inaptly called a giant's nosegay, and by another a gigantic hyacinth. The manner in which it scatters its flowers on the grass, and the comparative uselessness of its timber and fruit, make it an excellent emblem of ostentation. Its wood is recommended for water-pipes that are to be kept constantly under ground. In Turkey, the nuts are ground and mixed with horse food, especially when the horses are broken winded; in the natural state, goats, sheep, and deer are fond of them. The flour is said to strengthen bookbinders' paste.—Various tests as to what constitutes *civilization*, have been thought of. By one historian it is said nations that coin money may be considered civilized; another that hospitals for the insane, which were found in Mexico at the conquest, give that character to a nation. A new one is proposed—that we call that State of the Union the most civilized which has the most pleasure carriages and pianos; Ohio will rank high, she has taxed 2,731 pianos the last year. Gentility was defined "keeping a gig;" in Ohio there was no fewer than 261,849 pleasure carriages and wagons, valued at \$5,530,863! Is it any wonder, O! *Ohio Farmer*, from whom we derived the above, that butter is scarce?—Dioclesian gave the first example to the world of a resignation of supreme power and a throne. The amusements of letters and of devotion, which afford so many resources in solitude, were incapable of fixing his attention; but he had preserved, or at least soon recovered a taste for the most innocent as well as natural pleasures, and his leisure hours were employed in building, planting, and gardening. He rejected a solicitation to resume the imperial purple, with a smile of pity, calmly observing, if he could show Maximian the cabbages he had planted with his own hands, he should no longer be urged to relinquish the enjoyment of happiness for the pursuit of power.—The melancholy exhibited by some of our exchanges in their appeals to their subscribers, is often very

ludicrous. This demand for money may be readily cured by adopting the cash system, by which means the papers not wanted would end their long agony in a much shorter time than heretofore. If a paper will not command payment in advance, it had better be given up. These remarks are suggested by the following leader from the *Green Mountain (Maine) Farmer*, which it is as well to put on record: "As we said before, we absolutely need money. We have between three and four hundred dollars due us, from those owing six months to a year. Now, friends, don't be bashful, but just send along the small amount due, and then you will have the enviable satisfaction of reflecting, when you sit in your snug, warm parlor, of a cold, chilly night, quietly perusing your paper, that he who labored to fill its columns for you, is not at the same time shivering over a cheerless fire, whose feeble blaze affords him the only light by which to glean news from his exchanges for the next paper; and also that his better half is not engaged in stuffing those old pantaloons more snugly into the clattering windows to break off the searching wind, or endeavoring to quiet the little ones who have been put to bed minus their cup of milk. We say you will have the satisfaction of reflecting that this is not so. Won't this pay you for your trouble?" It makes one quite sad to think of this application of the "old pantaloons," in lieu of "rural art."—A law case of interest has lately been decided in England, in which a market gardener sought redress from a gas company for damages caused by the gases and soot evolved from the buildings. The plaintiff complained, and he and his witness proved that his fruit trees were destroyed or rendered unproductive, his hedges blackened and decayed; the branches of his trees were covered with soot, his annual crops were injured, and his trade seriously affected by the impossibility of bringing what few vegetables he could raise early into a state fit for sale. His scientific witnesses, one of whom was Prof. Way, proved that the leaves of his vegetables were covered with white spots, and those of his trees were shrivelled up; that the branches were so loaded with soot that it could scarcely be cleaned off, that their breathing pores were choked up, and their very tissue disorganized. Verdict for plaintiff.—Swans may become attached to mock representations of their mates. One of a pair of swans frequenting a pond died recently. The owner not being able to get another swan, had a wooden one made, painted white and moored in the pond. The survivor took it at once as a companion, and never left its neighborhood. A visitor doubted the fact of the live one frequenting that part of the pond on this account, and the wooden swan was removed to the other side of the pond to try, when it was at once followed by the live one. By this contrivance the swan was always kept in the part of the pond which was visible from the windows.—The Himalayan Rhododendrons have found no *fancier* in America yet, but it may be hoped some one at the South will take the pains to introduce them, and we do not despair of some of these beautiful productions being hardy even here. They should be planted against perpendicular masses of rock facing the north, and most of them in damp and dark situations, screened from every wind; such being the conditions in which Dr. Hooker (in his *Himalayan Journals*) describes these plants as most luxuriant in their native habitats. Such an arrangement has the further advantage of retarding their growth in the spring, for all are of an excitable nature, and therefore liable to be injured by late frosts.—Biddulph Grange, the English seat of James Bateman, would appear to be the best worth visiting of any improved place at this moment. A recent description in addition to much of interest, says: "By the margins of the rocky streamlet through the glen, a nice collection of half-aquatic and marsh plants is arranged, and some moist spots are specially provided for the many pleasing bog plants of Ireland and Wales. Here are various kinds of Reeds, Sedges, the Chinese Grass (*Acorus japonicus*), the Pampas Grass, the New Zealand Flax, *Bambusa Metake*—a hardy and pretty Bamboo, the double-flowered *Sagittaria*, the Water Dock, the charming little bog-loving *Pinguicula*, and a great number of other interesting plants, including some of the bolder forms of Fern, for which the shade and

moisture are particularly suitable. Here, as elsewhere throughout the place, the greatest possible peculiarity of condition is introduced, not merely for the sake of additional variety, but to furnish a congenial abode for that wondrous multitude of curious or ornamental plants to which such circumstances are naturally incidental."—Desiccated or dried milk seems likely to become an article of commerce. The powder is placed in bottles, and will keep in all climates and for any length of time. During the Crimean war, in the hospitals, &c., it was very useful. The French who make artificial diamonds so admirable, also counterfeit milk, which is made by putting a certain weight of bones with a little meat, with six times the weight of water, in Papin's digester. Being sealed hermetically, and raising the heat to 140° F., in forty minutes, from a stopcock, a white liquid comes out. It is nutritious, being a kind of broth, but has really none of the chemical properties of milk.—The poverty of iron among the Sarmatians, prompted their industry to invent a sort of cuirass, which was capable of resisting a sword or javelin, though it was formed only of horses' hoofs, cut into thin and polished slices, carefully laid over each other in the manner of scales or feathers, and strongly sewed upon an under garment of coarse linen.—In a very interesting report regarding the January storm, by Lieut. Bennet to Lieut. Maury, he makes the following startling statement: "Are you aware that at this season of the year the average number of shipwrecks is about one American vessel for every eight hours, and that the total value of the losses at sea for the month of January is set down at something like four millions of dollars?"—A toad or a frog placed in a cucumber frame will effectually relieve it from wood lice. He soon dispatches the whole brood.—Nasturtiums of different colors make a very showy bed: simply by driving down posts and nailing laths on them, these beautiful flowers will cover a large surface, and be perpetually gay.—A drying chamber is highly recommended abroad, for drying French beans, carrots, cabbages, onions and celery, by a current of air heated to 100°, by which, it is asserted, all the good qualities of those vegetables are perfectly preserved, and retain their peculiar flavors. Sweet herbs, too, are saved immediately by this process. Bark for tanning, thus cured, is said to retain its valuable qualities better than that dried in the open air. They begin, indeed, in England, to talk much of drying the grain crops in this way.—Bouchere's mode of preserving wood is much spoken of in the French journals. Soon after the tree is felled, a saw cut is made in the centre, the tree is slightly raised under this, which partially opens the cut which is tied up, the support withdrawn and the cut is entirely closed. An auger hole is then bored obliquely into the saw cut, and a wooden tube inserted to which a flexible tube is attached, placed in connection with an elevated reservoir; the sap exudes, and its place is taken by the solution of sulphate of copper. The results mentioned are really wonderful, and the least esteemed woods, and therefore the cheapest, are precisely those which afford the best results.—A little rosin powdered and dusted over peas, &c., when sown, effectually protects them from the depredations of birds, mice, and other vermin.—At Kew Gardens, in a glass case is a plant of *Opuntia coccinellifera* covered with the cochineal insect. This has been an inhabitant of these gardens for these last forty years and more; it has, however, sometimes been nearly lost from those unacquainted with it clearing it off the plants, thinking it a pest which had no business there.

Flora's Dictionary, by Mrs. E. W. Wirt, widow of the late distinguished William Wirt. This is an illustrated manual of the poetry of horticulture, and will greatly gratify those who would

"Gather a wreath from the garden bowers,
To tell the wish of their hearts in flowers."

It is intended as a presentation book. See advertisement. The venerable authoress deceased, a few weeks since, at Baltimore, at the advanced age of seventy-three.

ANSWERS TO CORRESPONDENTS. **HARDY CLEMATIS.**—There are near forty species of hardy clematis in European collections, but it is uncertain whether they are so here. The following list may be relied on: *C. Virginiana*, *Sieboldii* (two varieties, *azurea* and *bicolor*), *campanulata*, *cœrulea*, *flamula*, *florida*, *florida pleno*, *Hendersonii*, *vitalba*, *Viticella*, *V. cœrulea*, *V. rubra*, *V. violacea*, *V. purpurea*, *glauca*, *montana*, *crispa*, *smilacæfolia*, and *viorna*.

GRAFTING LEMON-TREES.—(A SUBSCRIBER, York.) In some countries, grafting is the general mode, but, with us, budding is most usual. The stocks are seedlings from the lemons of the stores. They are budded when two or three years old—generally in July or August—but at any time when the growth of the stock of scions are half through. It can best be accomplished in a close, moist heat—say in a greenhouse or frame.

When peach-trees are “frozen,” the wood as well as the pith turns of a brown color.

PEARS ON THORNS.—(A SUB., Wilkesbarre.) They unite readily by grafting, but are short-lived, and worthless for all practical purposes.

TULIP-TREES.—(W. F. B., Ashfield, Mass.) If your tulip-trees are to be taken from the woods, care must be taken to secure as much as possible of the roots; plant again as soon as you can, and well water at planting. To get them to do well, choose plants five or six feet high, and, after planting, cut to the ground, and select the strongest shoot for the future tree. There will be no time lost by the sacrifice. There is but the one variety.

WINDOW PLANTS.—(The same.) Double glazing is highly advantageous in preserving the temperature of rooms in severe weather, and does not materially obstruct the light; but it is very objectionable, by the condensation of moisture, and growth of green vegetable matter on the inside in such cases.

FORCING FRAMES.—(C.) Nothing is more easily forced than lettuce. Indeed, we doubt whether anything is better fitted for the purpose than the common hotbed frame. For artificial heat, stable manure or leaves are preferable. Very little heat is required; over 55° may be considered injurious, unless the plants are very near the glass, which, in any case, they ought to be. If it were desirable to grow them very extensively, no better plan could be adopted than to have long pits constructed with boards or brick, and the whole heated by hot-water pipes carried around on the inside. This could all be done in connection with the small propagating house inquired about—one boiler heating both. For a propagating house, and, indeed, for any kind of greenhouse structure where heat and light in winter is an object, a lean-to house, with a south or southeast aspect, is preferable to any other. In a house expressly for propagating, it is best to have a pit built, so as to contain a few feet deep of tan or leaves, or even sand, with the view of having a slight bottom heat or material to keep moisture around the pots. Sashes are not essential, if you provide sufficient ventilators in the front and back walls to keep down the temperature when it is likely to rise too high. A house can be built at a considerably less cost, and will cost less to maintain artificial heat, when the roof is built on the house without movable sashes. The entrance should be at one end—at the warmest.

Where coal and lumber are cheap, houses and frames may be constructed of wood more profitably than of any other substance.

DIOSCOREA BATATAS.—(W. GROOM, North Fork, Ill.) This stood the winter of 1855–6 here perfectly. We should say it is “as hardy as a parsnip.” They attain a fine size the first year when roots are planted.

STUARTIA VIRGINICA.—(W.) We are pleased that your attention has been drawn to this beautiful shrub. It flowers from July to September, when other bloom is scarce. It thrives best in a peat soil rather moist, but will also grow in deep, moist sand. No fast growing roots should be allowed near it, or they will overpower those of the *Stuartia*. In general,

being a swamp plant, it may have partial shade. It looks best trained up to a single stem, so as to form a small tree. Both this shrub and the *Gordonia* are allied to the *Camellia*.

(P. T. W.) Pomponne was the name of a French head-dress; hence the pomponne chrysanthemum and camellia ("Pomponia") received their names from a fancied resemblance to this head gear.

J. JAY SMITH, Esq.—SIR: I notice your remarks with regard to the advertising sheets of the *Horticulturist*. The advertisements have always been of interest to me as an amateur, and are always read first, to see what is new; and from the first, I have had the advertisements bound in the volume, put together in the last part of the volume. I would suggest this, as I do not know of its being practised, except by a few to whom I suggested it.

FLETCHER WILLIAMS, *Norwich, Wayne County, New York.*

Perdita, in the *Winter's Tale*, and the Clown, in *All's Well that Ends Well*, allude to the same name for Rue, the clown making a neat pun upon it. The Rue is by no means a homely shrub, having a profusion of fine dark yellow flowers, constantly renewed. It has been employed for bordering flower beds, and as a garden hedge.

CATALOGUES, &c., RECEIVED.—New and Choice Bedding Plants, imported and cultivated by Daniel Barker & Co., Florists, Forest Hill, Utica, N. Y., 1857.

FOR THE SPRING OF 1857.—Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Plants, &c., for sale at the Columbus Nursery, one and a half miles south of the State House, on High Street, Columbus, Ohio. By M. B. Bateham & Co. Ellwanger & Barry, Rochester, and M. B. Bateham, Columbus, Proprietors.

Lewis Ellsworth & Co.'s Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, for sale at Du Page County Nurseries, Napierville, Illinois. Much attention seems bestowed here.

Priced List of Plants for sale by W. C. Strong, Brighton, Mass. A large catalogue, and an extensive list.

Report of the Pennsylvania Hospital for the Insane. By Thomas S. Kirkbride, M. D.



TREES AS ARCHES.—We gave last month some cuts of trees so planted and trimmed as to form natural arches. There is abundant room for design in the structure of ordinary timber arches. This used to be done by whalebone. The subjoined cut affords an example of a simple arrangement which may occasionally be introduced with a pleasing effect; the old tree stump beyond combines well with the pointed arch to complete a rustic scene at the crossing of a bridge, &c.

ROCHESTER, N. Y., February 27, 1857.

The Horticultural Society of the Valley of the Genesee, held its annual meeting, in this city, on the 6th inst. The following officers for the ensuing year were unanimously elected: *President*—WM. A. REYNOLDS. *Vice-Presidents*—AUSTIN PINNEY, ZERA BURR, H. C. WHITE, SELAH MATHEWS, GEO. ELLWANGER, H. N. LANGWORTHY. *Recording Secretary*—C. W. SEELYE. *Corresponding Secretary*—H. E. HOOKER. *Treasurer*—JAS. H. WATTS. The meeting was very spirited, and we expect the exhibitions of the Society, during the coming season, to excel any previously made.

News has just reached our ears of the death of our esteemed friend and associate, James H. Watts. He died last evening, February 26, of typhoid fever, after a very short illness.

C. W. SEELYE.

To J. J. SMITH, Esq.

EDITOR OF THE HORTICULTURIST.—DEAR SIR: If you will allow me the requisite space at your "Editor's Table," I should like to inquire whether any of our public-spirited cultivators of greenhouse plants, have yet introduced—or tried to introduce—living specimens of a remarkable tree known as the *Snake-Nut-Tree* of Guiana. Specimens of the nut—so curious for the striking resemblance of the kernel to a snake coiled up—are occasionally to be met with; but I have never seen, nor heard of, a *living plant* in any of the rich collections in or around Philadelphia. Germinating seeds, and young plants, might surely be brought hither in *Ward Cases* without difficulty; and a sight of the growing trees would be a most interesting treat to the botanists and lovers of vegetable rarities. May we not hope that some of our enterprising gardeners or amateur florists will take measures to afford us such a treat at an early horticultural exhibition? The tree is indigenous on the banks of the River *Essequibo*, and its tributaries in *British Guiana*, and specimens might doubtless be readily procured through persons trading to that region. There is a brief but interesting account of it, by R. H. Schomburgk, in the fifth volume of the *Annals of Natural History*. Endlicher, also, in the *First Supplement* to his *Genera Plantarum*, has given its botanical character after Schomburgk, *hellenizing* the English name—*Snake-Nut*—into the generic one of *Ophiocaryon*. Trusting that we may yet have an opportunity to look upon such a curiosity,

I am, very respectfully,

W. D.

West Chester, Pa., Feb. 7, 1857.

THE DOWNING CAMELLIA.—An inquiry respecting this Camellia has elicited the following from the President of the Brooklyn Horticultural Society:—

NEW YORK, Feb. 19, 1857.

J. JAY SMITH, Esq.—DEAR SIR: In relation to the Downing Camellia, I have been informed by Mr. Rauch that he had communicated to you in relation to its distribution; presuming that he had done so renders it unnecessary to advise you. The circumstances in relation to the Camellia are these: The late N. J. Becar, of several seedlings, considered this his best, and prized it most highly, as one that would be an ornament to our present varieties; and when he had determined to part with the stock, he named it the *Downing* (after his particular and lamented friend); and left it with me to obtain fifty subscribers, at ten dollars each, presuming that he had fifty plants, which would realize five hundred dollars. This sum was to be applied for the purpose of obtaining three portraits of Downing, to be presented to the Philadelphia, Boston, and Brooklyn Horticultural Societies, observing at the time, that he wished to "present these Societies with some appreciation of the good feeling that had been tendered him." His widow being aware of the arrangement that existed between Mr. Becar and myself, authorized me to carry it out in the manner referred to.

Under the advice of Mr. Rauch and others, the plan of distribution has been changed, by classifying the plants at a fixed valuation, and the price fixed is from ten to forty dollars. This is on the basis of the difference in their value. There were four in the forty dollar class, two of which have been taken, one by a member of the New York Horticultural Society, and one of the Brooklyn Society; this leaves two of that class, one of which I should be pleased to see go to Philadelphia, and the other to Boston, and the other classes it would be gratifying to see distributed as equally as possible between the four Societies named. Any aid that you can render would meet with my thanks, and would give an equal opportunity to each Society. Mr. Rauch was to have had an advertisement, giving a full description of the Downing, in your March number, which I am in hopes he has attended to. I will send you three or four of the flowers as soon as I have an opportunity, with any other information in relation to it that I have not noticed on this occasion.

With great respect, your obt. servt.,

J. W. DEGRAW,

[See Advertisement in March number.—Ed.]

69 Washington Street, New York.

MONTREAL, Feb. 14, 1857.

J. J. SMITH, Esq.—DEAR SIR: Some typographical errors have occurred in my letter to Mr. Phoenix, published in the December No. of the *Horticulturist*, which it may perhaps be as well to correct.

P. 554, for "Kerwick" read "Keswick;" "Hawthorne," read "Hawthorndean;" "Dorning," read "Dominie;" "Breden Pippin," read "Bredon Pippin." Third line from bottom, for "Carrol's Seedling," read "Pearson's Plate." P. 555, for "Banquet," read "Bang-up."

I am afraid we shall hear bad accounts of the severity of the present winter. The thermometer has here registered 37° below zero, and we have had a long spell of exceedingly cold weather. The other day I noticed that the young shoots of a plum-tree were winter-killed. It stands close to a vinery border, and had perhaps made too luxuriant a growth.

It may interest grape-growers to state, that the different varieties of the Chasselas prove quite hardy in this cold region. Mr. Turner has fruited two sorts on the grounds of the Hon. James Leslie, in Montreal; one of them the Royal Chasselas. Mr. T. pronounces them, in open air, not superior to the old White Sweet Water. Some years since, I fruited the Chasselas de Fontainebleau in the open ground. All these hardy grapes, with us, require to be covered up in winter. Yours respectfully,

WM. BROWN,

(late Cockburn & Brown.)

HARTFORD, CONN.

DEAR SIR: My experience in the cultivation of apples warrants me in bearing testimony to the truth of the assertion of your correspondent in Kingston, N. Y. (H. H. Reynolds), that the Jonathan Apple "deserves a more extended reputation and cultivation." It is, certainly (as you remark in a note), "a desirable kind for cultivation."

I had been surprised to find that it is so little known in this vicinity, where so many kinds of good apples are raised in great perfection. With me it is a free grower, very productive, bears while quite young, and fruits every year. The tree grows in handsome shape, and the beautiful red fruit is distributed very uniformly over the branches. For about a month in the fall—say from the middle of September to the middle of October—there is not a more attractive feature of the kind on my grounds than the Jonathan Apple-tree; in fact, it is perfectly *ornamental*. I esteem it as one of the very best of thirty choice varieties which I am cultivating; and if I should ever be so situated that I could have but four or five kinds of apples, the Jonathan should be one of them; and (by the way), the Red Astrachan another. Respectfully, yours, &c.

DANIEL S. DEWEY.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, on Tuesday evening, 17th of February. Various premiums were awarded.

Among these we notice, for the best Apples—twelve specimens—the Mammoth Pippin, and for the second best, the Chester's Spitzenburgh, to John Perkins. *Special Premiums*—five dollars for three Queen Pine-Apples in pots, and one dollar, for Isabella Grapes, to Mark Hill, and one dollar to S. W. Noble, for Apples.

The appointments of the Standing Committees for the year were announced.

BROOKLYN HORTICULTURAL SOCIETY.—*President*—J. W. DEGRAUW. *Vice-Presidents*—HENRY A. KENT, WM. C. LANGLEY, W. S. DUNHAM, J. S. T. STRANAHAN, S. J. EASTMAN. *Treasurer*—M. BRANDEGEE. *Corresponding Secretary*—J. E. RAUCH. *Recording Secretary*—JAMES PARK. The spring exhibition, 1857, will be held at the Brooklyn Athenaeum, in Atlantic Street, corner of Clinton Street, opening to the public on Wednesday, the 15th of April, at 4 P. M., and continuing open during the 16th and 17th, from 8 A. M. to 10 P. M. The premiums are numerous and liberal.

Calendar of Operations.

APRIL.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

THIS is a busy month for the vine dresser. If not done last month, the stakes have now to be driven firmly into the ground, and the vines tied to them. When the buds begin to swell, bind the vine round in the form of a bow, and fasten it to the stake with willow ties; one at the top of the bow, and another at the end of the vine, will do. This lower tie may bring the vine close to the stake, or leave it three or four inches off, if there is danger of breaking it. This should be done, in damp or cloudy weather, in the forenoon, when the vines are pliable; by giving the vine a slight twist, it will be less liable to break. Tying requires judgment and care.

Plant cuttings, in nurseries, in trenched ground, in rows two feet apart, and the cuttings three or four inches apart in the rows, five or six inches deep at the butt or lower end, and the top bud just even with the surface of the ground.

When the ground is warm and mellow, plant out vines or cuttings in the new vineyard. If the latter, plant two to a stick, and if both grow, take up one to replace failures. Three by six, four by six, four by seven, or four by eight, is a good distance, if trained to stakes; if on trellises, six by eight feet apart will do. Lay out the rows carefully with a line, and put down a stick, about fifteen inches long, where each vine is to stand. Plant the cuttings ten inches deep, and six inches apart at the lower end, and the buds at the top end, even with the surface, and one inch apart. They will be then placed in a slanting position.

Leave alleys or walks, every ten to twenty rows, ten feet wide, and cross them when necessary.

Some persons cultivate their vineyards the latter part of this month, with the plough or hoe. Others prefer May. And it has lately been suggested to omit spring culture, and keep the weeds down with a scythe or a scuffle hoe; then to hoe or plough about the time the grapes begin to color, late in August; and to cultivate the ground thoroughly in October, after the crop is gathered. It is thought this method may prevent the "rot."

Plant the yellow willow in wet places, to make ties for the grape-vines. Cuttings one to four inches in diameter will grow readily.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—The practice of pinching out the points of growing plants, induces early maturity and increased productiveness. By cutting the tops off peas immediately after the first flowers open, the crop is hastened, and the individual plants send out lateral

shoots, and the bearing season is lengthened. So also with tomatoes; topping each shoot just above the flower bunches, will make a difference of some days in the fruit ripening.

Spinach, lettuce and cauliflower, may have a cool and shaded aspect, to prolong their growth. In the sun they are apt to grow rapidly to seed.

To keep up a regular supply of vegetables throughout the season, care must be exercised in putting down successional crops. Make two or three sowings, at intervals of a few weeks, of such seeds as peas, beans, beet, carrot, cabbage, radishes, &c. For condiments, cookery, and other purposes, we append the following list, which may be had from the seed stores, and which may now be sown: Basil, anise, cardoons, dill, fennel, caraway, celeriac, finocchio, marygold, marjoram, nasturtium, tansy, skirret, scurvy grass, savory, cress, chervil and mustard.

HARDY FRUIT.—Fork up slightly between the rows of strawberries, if the soil is very compact. Never use a spade unless to dig up the bed; no plant repays extra care more certainly than the strawberry, and perhaps there is none less satisfactory under poor treatment. Deep, rich soil, and mulching during dry weather, will be attended with success.

PEARS.—Attend early to pinching out the points from rampant growing shoots. No operation on trees is practically of more importance than this; it effects a saving of time, economizes manure, and increases the crop; indirectly, it is true, but none the less in fact. There cannot be a more pleasing occupation, for the amateur in fruits, than attending to a collection of dwarf pear-trees. Having in his eye the symmetrical proportions of a pyramidal-formed tree clothed with foliage from the ground upwards, he will now be bending down strong shoots and elevating weak ones, to equalize their conditions; and, as growth advances, these shoots likely to take a lead, and disarrange the equality of growth, will have their tops pinched out.

GRAPERY.—The canes will grow with more regularity, if their points are retained in a pendulous position: as the shoots grow out, tie them up. Admit air every favorable day; of course, cold, rustling winds must be excluded, but endeavor to inure them to free ventilation, and let the house be opened a little during the night, as soon as all danger from frost is past. It is a mistake to suppose that a constant high temperature will hasten the maturity of the crop. Even the lowering of 10 degrees during night is not sufficient. A difference at least of 20 degrees is absolutely necessary. To illustrate my meaning, I will briefly state the management and progress of two graperies as observed by me last summer, which I will designate as No. 1 and 2. No. 1 is furnished with a furnace for artificial heat; slight fires were made early in March, to start the vines. The temperature was carefully kept up, and the house shut up closely at nights, until the grapes commenced to color. No. 2 had no heater of any description; the vines budded out in April, with the warmth of spring; the second week in May the top ventilators were lowered, so that an opening of four feet was gained continually the whole length of the house, and was kept in that position, without alteration day or night, until November. Now for the result. The fruit in No. 2 was ripe and colored to the greatest perfection, and was cut before No. 1—the grapes in the latter were red, while they should have been black. The vines in No. 2 ripened well; the leaves changed color, dropped off, and the canes winter-pruned, when those in No. 1 (I saw both houses the same day) were green and succulent, not a leaf indicating a tendency towards maturity.

LAWNS, especially those recently sown, will be much benefited by a top dressing of soil, raked in and rolled, to counteract the lifting out of the grasses by frost. Drain and trench the ground for intended lawns; put your faith in that, and not in any mere mixture of seeds for a permanent turf.

TRANSPLANTING EVERGREENS can be proceeded with towards the end of the month. The cold winds of March, and the early portion of this month, are more injurious to evergreens than any other season. Therefore, it is not well to be in too great a hurry. Deciduous trees suffer less, as they do not present so great a surface for evaporation.





Landscape in Connection with Tree Planting, No. 4.

(CONCLUSION.)



IF we have succeeded in getting the ear of the landscape improver, by illustrating to the eye the effects of grouping, we have only now to add, that the study of the subject, to be effective, must be combined with a certain amount of arboricultural knowledge before the work is commenced. If we do not know the natural heights which each species attains, the first principle is wanting. Merely to group for the effect of the present year, by planting trees according to their respective heights in the nursery rows, would be attended with certain disappointment as the plants made progress; while the centre tree would scarcely grow in height, the outside ones might in two or three years overtop them, and throw them entirely out of sight. Hence it is that the services of a landscape-gardener with this knowledge, is necessary to success, and hence it also is, that persons without this previous knowledge are always pretenders.

While groups may be made so very effective, even in small places, the greatest care, in a large scene, must be taken that irregularity of breadth be preserved in the glades or pastures, and that the dotting system be strictly avoided; by spotting groups equally all over a surface, repose is frittered away, and no breadth or varied expanses of lawn, which are so much to be desired, are shown.

The rarest and most interesting kinds of trees and shrubs ought to appear nearest to the road, walk, or mansion, or they might be otherwise overlooked. In a dressed border, efforts should be strenuously made to have shrubs and plants some of which will bloom at all seasons, and such should be selected that do not require much water, where the means of irrigation are not at hand.

As regards our final illustrations of grouping, Fig. 19 is far more in unison with two Spruce Firs, as they there appear, than if they were planted on the outside of the whole of the Poplars, on account of their deeper tone; or a group of Spruce Firs or Larch (Fig. 20) with a Silver Fir or Cedar of Lebanon, is more in character than if either of the latter were placed on one side.

A large or massive group, composed of various trees, and of various heights and distances, with the most striking character blended inside, would produce an assemblage of varied outline and of natural loveliness (Fig. 21); but if a single tree only, of striking character, were placed on one side of such a group—as, for instance, a Cedar of Lebanon, Scotch Fir, Austrian Pine, Spruce Fir, Larch, or Purple Beech—the balance of beauty would be instantly destroyed.

This little essay on grouping and massing may perhaps convey some ideas to improvers, and give to those in possession of country places an impetus to a more extended study of the charming topic; possibly, too, it may induce others in possession of trees to give them artistic changes, affecting and beautifying their whole character for present and after time. The subject admits of much extension, but as brevity has to be studied in these pages, we give place at present to other topics.



SAXE-GOTHEA CONSPICUA.

THIS remarkable plant, to which His Royal Highness Prince Albert has permitted one of his titles to be given, and which will probably rank among the most highly valued of our hardy evergreen-trees, is a native of the mountains of Patagonia, where it was found by Mr. William Lobb, forming a beautiful tree thirty feet high. In the nursery of Messrs. Veitch, of Exeter, it has lived in the open air for four years without shelter, and has all the appearance of being well-adapted to the climate of England. The country in which it grows is, indeed, more cold and stormy than any part of Great Britain, as is shown by the following account of it, given by Mr. Lobb in one of his letters to Messrs. Veitch:—

"During my absence, I visited a great part of Chiloe, most of the islands in the Archipelago, and the coast of Patagonia for about one hundred and forty miles. I went up the Corcobado, Caylin, Alman, Comau, Reloncavi, and other places on the coast, frequently making excursions from the level of the sea to the line of perpetual snow. These bays generally run to the base of the central ridge of the Andes, and the rivers take their rise much further back in the interior. The whole country, from the Andes to the sea, is formed of a succession of ridges of mountains gradually rising from the sea to the central ridge. The whole is thickly wooded from the base to the snow line. Ascending the Andes of Comau, I observed, from the water to a considerable elevation, the forest is composed of a variety of trees, and a sort of cane so thickly matted together that it formed almost an impenetrable jungle. Further up, amongst the melting snows, vegetation becomes so much stunted in growth, that the trees, seen below one hundred feet high and eight feet in diameter, only attain the height of six inches.

"On reaching the summit, no vegetation exists—nothing but scattered barren rocks, which appear to rise amongst the snow, which is thirty feet in depth, and frozen so hard that on walking over it the foot makes but a slight impression.

"To the east, as far as the eye can command, it appears perfectly level. To the south, one sees the central ridge of the Andes stretching along for an immense distance, and covered with perpetual snow. To the west, the whole of the islands from Guaytecas to the extent of the Archipelago, is evenly and distinctly to be seen.

"A little below this elevation, the scenery is also singular and grand. Rocky precipices stand like perpendicular walls from two hundred feet to three hundred feet in height, over which roll the waters from the melting snows, which appear to the eye like lines of silver. Sometimes these waters rush down with such force, that rocks of many tons in weight are precipitated from their lofty stations to the depth of two thousand feet. In the forest below, everything appears calm and tranquil; scarcely the sound of an animal is heard; sometimes a few butterflies and beetles meet the eye, but not a house or human being is seen. On the sandy tracts near the rivers, the lion or puma is frequently to be met with, but this animal is perfectly harmless if not attacked."

It is from this wild and uninhabited country that many of the fine plants raised by Messrs. Veitch were obtained, and among them the *Saxe-Gothæa*, *Podocarpus nubigena*, *Fitz-Roya patagonica*, and *Libocedrus tetragona*. Of these he writes thus:—

"The two last (*Fitz-Roya* and *Libocedrus*) I never saw below the snow line. The former inhabits the rocky precipices, and the latter the swampy places between the mountains. The first grows to an enormous size, particularly about the winter snow line, where I have seen trees upwards of one hundred feet high, and more than eight feet in diameter. It may be traced from this elevation to the perpetual

snows, where it is not more than four inches in height. With these grow the Yews (*Saxe-Gothæa* and *Podocarpus nubigena*), which are beautiful evergreen-trees, and, as well as the others, afford excellent timber."

SAXE-GOTHÆA may be described as a genus with the male flowers of a Podo-



A.—Branch of *Saxe-Gothæa conspicua*.

carp, the females of a Dammar, the fruit of a Juniper, the seed of a Dacrydium, and the habit of a Yew. Its fleshy fruit, composed of consolidated scales, inclosing nut-like seed, and forming what is technically called a Galbulus, places it near Juniperus, from which it more especially differs in its anthers not being peltate,



B.—Fructification of Saxe-Gothlaea.

nor its fruit composed of a single whorl of perfect scales, and in its ovule having two integuments instead of one. In the last respect, it approaches Podocarpus, and especially Dacrydium; but the exterior integument of the seed is a ragged,

abortive membrane, enveloping the base only of the seed, instead of a well-defined cup. In a memorandum in my possession, by Sir William Hooker, I find this distinguished botanist comparing Saxe-Gothæa to a Podocarp with the flowers in a cone—a view which he was probably led to take by the condition of the ovule, and which may be regarded as the most philosophical mode of understanding the nature of this singular genus, to which Nageia may be said to be a slight approach, and which is not distinguishable, by habit, from a Podocarp.

In its systematic relations, Saxe-Gothæa possesses great interest, forming as it does a direct transition from the one-flowered Taxads to the true imbricated Conifers, without, however, breaking down the boundary between those orders, as I understand them, but rather confirming the propriety of limiting the Coniferous order to those genera which really bear cones instead of single naked seeds. In the language of some naturalists, Saxe-Gothæa would be called an osculant genus between Taxads and Conifers.

The leaves of this plant have altogether the size and general appearance of the English Yew, *Taxus baccata*; but they are glaucous underneath, except upon the midrib and two narrow stripes within the edges, which are pale green. The male flowers consist of spikes appearing at the ends of the branches, in a raceme more or less elongated. These spikes (Fig. B, 1) grow from within a few concave acute scales, which form a kind of involucre at the base. Each male is a solitary membranous anther, with a lanceolate, acuminate, reflexed appendage, and a pair of parallel cells opening longitudinally. The female flowers form a small, roundish, pedunculated, terminal, scaly, imbricated cone (Fig. B, 3). The scales are fleshy, firm, lanceolate, and contracted at their base, where they unite in a solid centre. All appear to be fertile, and to bear in a niche in the middle, where the contraction is, a single inverted ovule (Fig. B, 4). The ovule is globular, with two integuments beyond the nucleus; the outer integument is loose and thin, and wraps round the ovule in such a way that its two edges cannot meet on the under side of the ovule; the second integument is firm and fleshy; the nucleus is flask-shaped, and protrudes a fungous circular expansion through the foramen. The fruit (Fig. B, 5) is formed, by the consolidation of the free scales of the cone, into a solid, fleshy mass of a depressed form, and very irregular surface, owing to many of the scales being abortive, and crushed by those whose seeds are able to swell; while the ends of the whole retain their original form somewhat, are free, rather spiny, and constitute so many tough, sharp tubercles. The seed (Fig. B, 6) is a pale brown, shining, ovate, brittle nut, with two very slight, elevated lines, and a large, irregular hilum; at the base, it is invested with a short, thin, ragged membrane, which is the outer integument in its final condition. The nucleus lies half free in the interior, the fungous apex having shrivelled up and disappeared.

Explanation of the Cuts.—A, a branch with male and female flowers, natural size; B, various details of the fructification, more or less magnified; 1, a spike of male flowers; 2, a male or anther apart; 3, a twig and young cone; 4, a scale seen from the inside with the inverted ovule, showing the fungous foramen protruding beyond the primine (outer integument); 5, a ripe fruit; 6, a seed, showing the two slight elevations upon the surface, and the remains of the ragged primine at the base.—*Dr. Lindley, in Horticultural Society Journal.*

[Mr. Sargent considers the Saxe-Gothæa hardy in the climate of the North River. It belongs to the yew-leaved form of evergreens.—Ed.]

VISITS TO COUNTRY PLACES.—NO. 9.
AROUND BALTIMORE.

How much or how little a traveller sees, depends upon two circumstances; the state of his own inquisitiveness, and the amount of intelligence he meets with from those whom he associates with on his tours. That the masses who visit our principal cities as "travellers" know very little of the places they pass through, is evident; without introductions, conversation is perhaps confined to the fellow-passenger, who knows more of the place just left than of the one approached. The hotel life is unfavorable to accurate investigation; we may see the outside of a city just as most Americans see Paris, but as to its inner life, how few know anything of it. Who has ever described country life in France? and yet there is such a thing; Lafayette's family was an example, and there are many others equally agreeable. Who has described country life in America? or who has seen it? As to the *neighborhood* of New York, Boston, Philadelphia, or Baltimore, how many of the millions who land in their streets and hotels know anything of the clever, quiet people who are leading sensible lives on the outskirts? Not one of the thousands. And yet, these honest lovers are numerous, are thrifty or wealthy, and pursuing objects of interest in agriculture, horticulture, literature, and those subjects of an enlightened social life, that lend an indescribable charm to civilization. When we say one-half the world knows not how the other half lives, we mean, how it gets its living—procures its bread; but we might say as correctly, that nine-tenths of our population know not the extent of the civilization of their neighbors.

This will be apparent, for instance, if a traveller who has heretofore made the Baltimore hotels his sole acquaintance, will domesticate himself in the vicinity, and, with the aid of an intelligent friend, explore the neighborhood; he will find much more intelligence, progress, and high civilization, than the external aspect of things, as he viewed them from the cars, has led him to expect, however attractive in many particulars, that may be.

We found, after such an examination, much more to admire, in a horticultural sense, than we had any expectation of; indeed, Baltimore, in proportion to its population, is not behind its compeers in enthusiasm for good culture, botanical riches and results. It has had no Magazine of its own, to chronicle and spread a knowledge of its doings, and yet it has a spirited horticultural society, excellent commercial gardeners, private collections of plants, and an amount of amateurs that quite surprised and delighted the little horticultural party which had surveyed with admiring eyes the finest places "at the North." In private life, there is a style, and even grandeur, which is rare anywhere; landscape-gardening has taken a high rank, and we cannot but wish the writer in the last *North American Review*, whose vision is so lamentably bounded by his "Boston Common," could extend his trips, and see scenery beyond "Cambridge;" we can assure him there is something beyond.

Farm Lands, the noble summer residence of Gustave W. Lürman, Esq., we have already described as a farm of six hundred acres, cultivated with a discriminative liberality, and yet with a large profit (see *Horticulturist* for December, 1856). It is about seven miles west of Baltimore, in a rolling country, commanding fine views of the city, the bay, and surrounding scenery.

The lady of the mansion is the presiding spirit of all that pertains to horticulture and planting; an enthusiast, in short, who never allows an opportunity to

escape for the acquisition of a new tree or plant. They have already as extensive a collection of rare trees and shrubbery as we know anywhere, most judiciously selected and planted, and promising to become one of the most beautiful in this country.

The house, one of great extent and comfort, without architectural pretension, is situated on a gradually ascending elevation from the gate, in the midst of an open grove of lofty oaks and chestnut oaks of such magnitude, as to permit the lower branches to be trimmed up sufficiently high to give the most extended views without interfering with the dignity and character of the wood itself. These views extend, in the rear, to a forest of some hundred odd acres, attached to the estate, giving one an idea, from its repose and depth, of the ancient chase. And, in front, for many miles over a most charmingly rolling and park-like country, where all the fences and barriers are most ingeniously concealed, to Baltimore—a distance of seven miles—and to the Chesapeake. We believe, in fine weather, this view even extends to the State House at Annapolis.

The middle distance, after emerging from the grove, consists of a gradually rolling and sloping lawn, with some fine cedars and other trees judiciously grouped, until it finally terminates in a valley, advantage of which has been taken with much taste and discrimination, to place a French flower garden of great beauty in gravel and box edging, and immediately in rear of which is a very handsome architectural greenhouse; a gardener's house, a grapery, a double curvilinear house, frame yard, with several hundred feet of brick pits, a well-concealed vegetable and fruit garden, and the other necessary appliances of country life.

A well designed and admirably executed walk conducts from the house through the valley to the garden and greenhouse, bordered by masses of the newer and more beautiful shrubs, with occasional single trees or plants of rare value.

Through the deeper part of the valley, the plantations assume the character of what in England is called "the American garden," and fine masses of *Rhododendrons*, *Kalmias*, *Azaleas*, *Mahonias*, *Hollies*, &c., abound in the greatest profusion and luxuriance. We do not remember ever to have seen finer or more superb *Magnolias* than in this portion of the grounds. The return walk passes over the side of several gentle elevations, and is in like manner tastefully planted with groups, masses, and single specimens of the rarer trees.

We believe it is the intention of Mrs. Lürman to form a *Pinetum* walk on this portion of the pleasure-grounds. There are, however, already at Farm Lands many fine specimens of the new *Conifers*.

Take it all in all, we know of no finer place south of Philadelphia, and, in fact, no place where a more charming effect is produced than the view from the house, under the canopy of lofty trees, over the gently rolling lawn to this soft and pretty valley, terminated in so bright and sparkling a manner with its brilliant French flower-garden and attractive greenhouse completely shutting in the view in this direction.

The defects, if defects they may be considered (and what place is without some?), are, perhaps, too great openness and extension in certain portions of the view; for we quite agree with London in believing that even a park may be too large.

Our idea of the perfection of a place is such an amount of landscape as may reasonably be supposed to be within the compass of the ordinary fortune of the country in which the property is situated. Windsor Castle and Park would therefore be as inconsistent with our American fortunes as one of our suburban villas and lots would be for an English nobleman.

We would therefore be quite satisfied if the views at Farm Lands were confined to the five or six hundred acres comprising the estate, instead of reaching, as they

do, over many miles beyond; to be sure, similar landscape, but so extended as at once to impress the visitor with the impossibility of one individual owning the whole. However, this is a defect more or less belonging to all elevated situations, and one which so few persons would allow, that we may be thought capricious even to have mentioned it. We therefore conclude our impressions of Farm Lands by repeating that, taking the farm and estate together, we know of few places more desirable.

ELVASTON CASTLE.

A LEAF FROM MY NOTE-BOOK.

BY ROBERT BUIST, PHILADELPHIA.

No doubt, Mr. Editor, you have often been interrogated, by your friends who were about making the "tour of Europe," with the question: "Which are the finest parks, pleasure-grounds, and pinetums, to visit?" The reply of course would be, Chatsworth, Woburn, Kew, &c.

ELVASTON CASTLE, to which I will call your attention, has been rarely viewed till within the past few years; it was a sealed book to all but its late owner and his workmen. It has, however, recently become one of the "sights," and is public on a specified day of the week. It is the seat of the Earl of Harrington, near Derby, and is celebrated for its profusion of evergreen-trees and shrubs; it is also known for its symmetric and natural planting. If there existed a hardy evergreen, it was soon deposited within the domain of this enthusiastic modern planter.

When I first visited it, in 1831, to see my youthful friend, Mr. Barrow, who then entered as gardener, I noted the place only for its long, level avenues of lindens and chestnuts, that had stood the storms of the past century. Mr. Repton, the famous landscape-planter, was invited, by the grandfather of the late Earl, to improve the grounds, but considered them so tame and level that nothing could be done; he planted about half a dozen Cedars of Lebanon, which remain, and they were the only evergreen-trees of any character on the place, in 1830. So meagre was the character of the place for trees, that the late Mr. Loudon, in his full garden statistics about 1829-30, did not even notice it.

The house is of the plainest exterior, with all the appendages of the establishment in conjunction with it; and, strange to say, the parish church in juxtaposition, but so retired and secluded, that no intrusion from thence could be effected.

A plain sheet of water, and an ancient flower-garden, with hedges of yew and laurel, formed the picturesque of this now noted spot in the above year. How changed the scene! The cool, collected, ingenious talent of the gardener, backed by the Earl's wealth and will, with a determination to produce what he had so long desired, has resulted, in so short a period, in effects which no other person has yet achieved, even with nature in all its grandeur at his command. The whole has been produced so quietly and privately, that comparatively few had realized a solitary view, unless taken from the top of the church, as was done by your friend, the late Mr. Downing, or on a very few special occasions granted by his Lordship. The following feebly shows what a few years have accomplished. The whole feature of the place is decidedly *Evergreen*: so that the grand avenue of lindens gives way to rows of Deodar cedars, Douglas firs, and Austrian pines, till you approach within half a mile of the mansion, where there is an inclosure by a ha-ha, or sunk fence, within which you enter by massive, gilded, iron gates. On the right, the column is covered with the golden ivy, and, on the left, the lodge is embedded with mantles of the green. So striking a contrast could not be over-

looked. You are now within the paddock, in a serpentine approach, planted on the right and left with variegated holly, backed with Cembra pine, whose sombre shade forms a striking contrast with the pale variegations of the holly. The next turning opens on beds of heather, beautifully in bloom, interspersed with boxwood, and screened from the mansion by towering specimens of Douglas fir and Cedars of Lebanon, whose tops are grafted with Deodars; the dark green of the former contrasting with the soft green of the latter, you could not resist the impression of the trees being covered with silken mantlets.

Another turning places the winter garden on the left, and brings you up in front of the mansion, from which you have a full view of the winter garden and mount of pleasure, that has no equal in Victoria's dominions, or perhaps any other country. By a covered yew walk, you enter the garden, and figure to your mind's eye an old, bushy yew that had been growing for centuries before its removal to its present site twenty years ago, forming now a beautiful, artificially-clipped arbor, fifteen feet square and twenty feet high, perfect every inch, not a branch or twig out of place (except a morsel of a new variety, or sport scrupulously reserved for multiplication), surmounted by two peacocks formed on the top of each other, and over them two rings, all made with the shears; and perhaps the whole cost as much as some of the fine architectural churches of our city.



The Irish Yew stands in regimental phalanx, about eight feet high, grafted with the Golden Yew, formed into crowns, and shining in the sun with dazzling splendor. The Swedish and Irish Junipers make boundaries of various tints of green, and are worked up into masses, creating variegations of foliage, habit, and shape, by contrast of color, and the disposition of plants. The prevailing characters

produced a *parterre* with colors so contrasted as to rivet the eye; this was readily accomplished by every imaginable shade, even surpassing any floral arrangement.

For example, take a half circle or crescent, and plant the disk with dark, upright, sombre Yew or Juniper, and the concave with variegated plants such as Periwinkle, Thyme, and Santolina; you will have at once a winter bouquet. I give you the outline, and leave you and your readers to form the picture. The gilding of the statuary—to me, questionable taste—the elaborate work of the baskets surrounding some cherished novelty, the feathered declivity of the embankments, the terraces, and the slopes, the plains and the mounts, circular and square, oval and angular, all exhibit an artistic skill fascinating in the extreme. “What is this surrounded with such beautiful wicker-work?” “*Libocedrus chilensis*; a great acquisition; it looks like a Silver Arbor-vitæ.” “Oh yes, you may call it *Thuja Chiliensis*.” “There is another exquisite plant!” “That is *Biota aurea*.” “Ah! very like a *Thuja*, too.” “Yes, *Thuja aurea*.” “What peculiar shaped Pine is that?” “A Douglas Fir.” “Ah! you have been using the knife on it.” “Yes, and on many others, freely. I exploded the idea that Evergreens will not bear pruning. Do it at the proper time, and judiciously; they are, with few exceptions, perfectly under control.” “I thought Douglas Fir was an exception, and that it was only handsome from seed?” “Of all the magnificent specimens on the place, there are only about half a dozen of seedlings.” “What is the object of those pieces of paper at regular distances along the top of that Yew hedge?” With a smile: “They are to cover the grafts of the Golden Yew that I put in a few days ago.” “What! graft at this season of the year—July?” “All those trees have been grafted in the same way, by what, you know, is called herbaceous grafting, taking the soft young wood of this season’s growth, and inserting it into the shoot of the same age on the stock, and they unite in a few hours!” *Make a note of that.*

From the east front of the house, the east avenue extends ten miles in a straight, uninterrupted view, which is not used as an entrance, but merely as a prospect. A walk of about thirty feet wide extends half a mile, or as far as the ha-ha; within this space, the majestic Horse-Chestnut has been replaced by the *Araucaria*, *Cryptomeria*, *Taxodium sempervirens*, *Deodars*, Cedars of Lebanon, and *Picea pinsapo*, disposed of with a gracefully waved outline. As you enter this amazing vista, you have, on your right and left, specimens of *Picea nobilis*, each twelve feet high, and about the largest in England, of the most symmetrical form, and without a fault, surpassing in beauty the famed *Araucaria excelsa* (Norfolk Island Pine), and grown from cuttings planted out when only three inches high. Onward, are magnificent trees of *Araucaria imbricata*, thirty-five feet high, planted on mounds, and clothed to the ground with their distinct and unique foliage. These trees have been eighteen years planted, so that their average growth has been about two feet a year. Onward was the *Cryptomeria*, with its graceful, airy form, and pendulous branches, contrasting with the stiff habit and upright mien of the *Araucaria*. How grand, how expansive the view! What will those new features attain? Shall I see it again in twenty years!

To the left of this prospect, and entirely obscured by mounds and planting, is the tame sheet of water of 1831, now a magical lake, interspersed with islands, peninsulas, promontories, and steepes, of the most verdant grass, artificial rock-work, palisades, and geological formations, all having been brought many miles to adorn this magical spot, to which you are gently drawn by the musical whisperings of a secluded waterfall. In your search, you cast your eye on a view called the “Vista of Spondon,” being a church, with its towering spire, three miles across the lake, forming the termination of this picturesque view. At your feet

is a beautiful boat with golden oars, in which we paddled from island to island, viewing and comparing the growth of trees, the formation of artificial rocks, and the design of the planter, where the towering Douglas and Norway Firs were flanked by our Hemlock Spruce, which makes an agreeable tree for rock and water scenes; its delicate foliage and drooping branches kissing the ripple of the silver lake, adding new charms to the scene; one of our most common trees luxuriating in those fairy isles with native splendor. Those trees were not planted on low *mud* islands, but on high, artificial hills, nearly every foot of which had cost a shilling to the spirited owner, whose great delight was to employ the poor in creating those objects of his fancy. His sole pleasure was planning, planting, and replanting—the cost rarely estimated; the question was, can it be done? On the margins and inlets of this romantic sheet of water, great effect is produced by the shades of foliage. The Austrian, Corsican, and Norway Pine, give dark shades; the Silver, Scotch, Bhotan, and Sabin Pines, give light shades, using the Deodar, on all occasions, for union of design; the Khutrow Cedar and Silver give green shades, with an occasional Yew, whose histories go back into other centuries, and give a tone of ancient and modern grandeur, which must be seen to be fully realized. On the south of the lake, and very near the mansion, is formed a grotto and fountain, where all the gems of dwarf evergreen-trees, lava, and rocks, are collected, and rather systematically arranged, which appears to have been the prevailing taste of his Lordship. How wonderful are the productions of the vegetable kingdom! it can only be realized in collections thus brought together.

We have been admiring the rapid growth of many of the firs and pines, frequently exceeding five feet in a season. What are we now to say of those miniature affairs, such as *Abies clanbrasiliana*; those Pigmy and Hudson Firs, some of which were twenty years old, and had not attained the height of as many inches. The view from this point across the lake, was on the artificial ruins of an old castle, composed of rocks, pieces of buildings, tufa and limestone formations, covered with ivy and wild flowers, all erected within a few years, and appearing as having stood for ages on a spot that was a low meadow as late as 1831. All the walks in the vicinity of this lake, and, indeed, for miles, were asphalted, by taking four parts of clean gravel, and one part of quicklime, and gas tar sufficient to make the whole of the consistency of mortar; this was heated on plates of iron, and laid down whilst hot about two inches thick, and has become as hard as marble.

So much was I absorbed with what I could barely realize to be real, that 10½ o'clock of the night found me under the soft silver beams of the moon, still enjoying those magical scenes, where I had seen but yesterday, comparatively, the muddy pool skirting the field of the mower. I retired to rest, but found none for my excited imagination. The early dawn (2½ o'clock) found me alone amidst the golden-crowned Yews of the winter garden; not altogether alone, I found, for there followed me the silent watchman of the night, who has trod the rounds for seventeen years, amongst those, to him, no doubt, monotonous scenes.

The thorough secret of the successful growth of all I have seen, consists in a complete system of under-drainage, the ground being so level the main drain had to be extended one and a half miles in a direct line. All the leading trees are planted on mounds of earth. No tree was too large to remove, and none too small to plant; every power and facility was on the spot; all fibrous roots, on removal, were securely protected; copious waterings were given; strong stays of No. 8 wire were fixed from the ground to various parts of the tree, to prevent its being displaced after planting; evergreens were successfully removed at all times, but preference given just before their growth. Even a Yew that had stood

for three hundred years, was brought from a distance, and, the second year after removal, made a luxuriant growth. Another striking fact, was planting the best that could be got; from three inches to three feet was the general height of all those now unique specimens of rare Evergreens. Seedlings, cuttings, layers, and grafts, all were alike acceptable; if they were not of the proper form, the knife was freely applied to either root or branch. Where roots had been confined in pots before planting, they were washed from the old soil, carefully extended, fresh soil placed amongst them, freely watered a few times, and success was the result; experience proved this to be the true plan, for the roots, as grown in the pots,



take the screw form, and, when planted a few years, tend actually to grow the tree out of the ground, and, in a few years more, a storm prostates the specimen by the tendency of the screw throwing it upwards. The most critical judges cannot now decide whether the tree was originally a cutting layer or graft.

The whole energies of means and art have not been entirely directed, during the time, to the grand achievement of an evergreen pleasure-ground and winter garden. There is a fruit and vegetable garden, with graperies, peach-houses, forcing-houses, pine-pits, hot and cold walls, and all their accompaniments, kept in corresponding order, flourishing and fruitful; but these are every-day affairs. The achievements in the grounds, and the planting, their growth and keeping, in the short space of twenty years, have no precedent in modern landscape gardening. The place viewed now (in 1857) will be found densely covered; the growth has been exuberant; the trees and shrubs having, for effect, been planted thick, they are constantly engaged in removing, to clothe other grounds, their present owner being still desirous to keep up and protect the character of the place, which is now generally appreciated by the privilege granted and previously alluded to. One beautiful fact connected with the establishment is, that the lord and the laborer are all advocates of the temperance cause, giving a comfort to all the cottages, families, and people of the place.

SPRING.

BY W., NEW YORK.

WHAT a magic word! How we delight to anticipate thy coming through the long and dreary winter months! We have awaited thee with anxiety. Thou art here at last. We salute thee, we bid thee welcome. Thou comest to infuse joy and gladness into every heart. Thou art the harbinger of many good things in embryo. Thou comest decked and adorned like a youthful maiden, with floral beauties entwined about thee. All nature rejoices. The feathered songsters are glad; they sing with sweeter notes; they delight to bask in thy genial warmth; in harmony and love they select their mates, and build their little nests together; they toil and care for their young, showing all the maternal fondness that is possible for a kind and tender parent to exhibit. Shall man—intellectual man—fail to profit by their example? We trust not. Thou infusest new life and vigor in the vegetable kingdom. Everything therein bids thee welcome, and puts on a gladsome appearance at thy approach; even the emerald turf is made to smile and greet thee; even the aquatic animals rejoice and sing thy praise.

Spring, like youth, is a season of anticipation. It is then that everything looks charming and lovely; it is then we lay our plans; it is then that we should dig, plant, and delve. We anticipate much, and it is well that we do, for what is life without anticipation. In truth, it is the joy of life itself, although we often anticipate much that is never realized. Who can walk abroad on a lovely morning, in May, when every tree and shrub is robed and adorned with the wedding garment of floral beauty—when the sense is greeted at every turn by vegetable odor of the most enchanting kind—when the grass itself is made to smile with joy—when the very insects are humming their notes of gladness, and greeting spring—we say who can, and not feel his pulse beat with a quicker stroke, and his heart leap with joy, and feel grateful to the beneficent *Creator* for all the beautiful and lovely things that He in his goodness bestowed upon man, to cheer, to encourage, to gladden his heart, and to bring forth grateful emotions that will lighten his labor in his journey through life? Who can doubt that spring is an emblem of eternal joy and felicity? We do not. We say, that the man who can walk abroad and behold all these things, and not appreciate them, in some degree, is unworthy of being called a man; he has a defect in his nature that he ought to be sorry for. How kind of the *Creator* to bestow upon man so many rare gems of floral beauty with which he may *embellish*, adorn, and beautify his home. What more lovely, when one is travelling, than to see a cottage nestled among honeysuckles and climbing roses? How inviting to the traveller! How it bespeaks intelligence and virtue for the inmates! How it denotes the abiding-place of industry and contentment! Alas! we are sorry to say, that in some parts of our country—even the old parts—those that have been settled for more than two hundred years, there is but little of this taste to be seen. One may often travel a whole day in some of the interior towns, and scarcely meet with anything better than a common May rose. These things ought not to be so, and we are sure they will not long remain; plenty of good examples exist in various parts of the country, and fashion is fast doing the work; nothing can long withstand her sway, as it is generally irresistible. In a few years, it will be as rare to see a cottage without honeysuckles and climbing roses as it is now rare to see old-fashioned short pants and long stockings.

PEARS.

BY HON. M. P. WILDER, BOSTON, MASS.

MR. EDITOR: In fulfilment of my promise, I annex descriptions of a few modern pears, which promise to be worthy of extensive cultivation. Although we are indebted to Europe for many of our best fruits, and, by a judicious selection, shall continue to add other fine kinds to our catalogues, yet it is to the production of new kinds from seed that I especially look for those adapted to our soils and climate. Whatever may have been the disappointment of foreign cultivators in this branch of pomology, there can no longer be a doubt as to its success in America. Excuse this digression, and upon which topic I may address you hereafter.

CALEBASSE DELVIGNE.—*Size*, large, about three and one-fourth inches long by three inches broad.

Form, obovate, obtuse-pyriform, broad at the base, tapering gradually towards the stem. *Stem*, three-fourths to one inch in length, fleshy, inserted in a slight cavity.

Calyx, rather small, set in a shallow, irregular, wide basin.

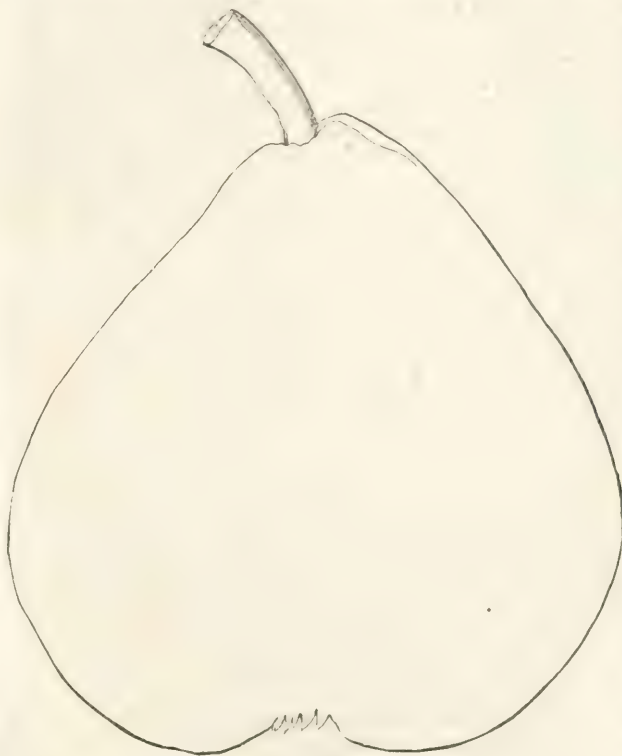
Skin, green, a little rough, dotted, and flecked with russet, and tinged with crimson on the sunny side.

Flesh, yellowish-white, buttery, and melting. *Flavor*, sweetish, pleasantly perfumed.

Season, October, but may be prolonged for some weeks. *Class*,

"very good." *Tree*, vigorous and productive. *Growth*, upright. *Shoots*, erect and stout.

Succeeds well either on the pear or quince stock. This variety was imported from France ten or twelve

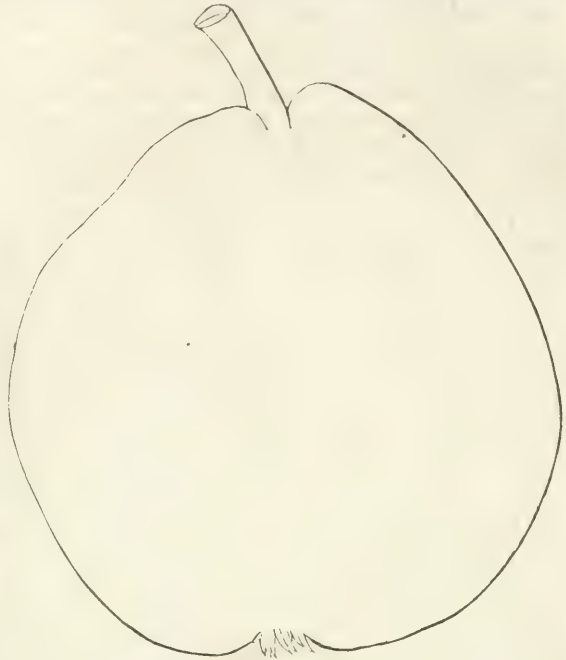


Calebasse Delvigne.

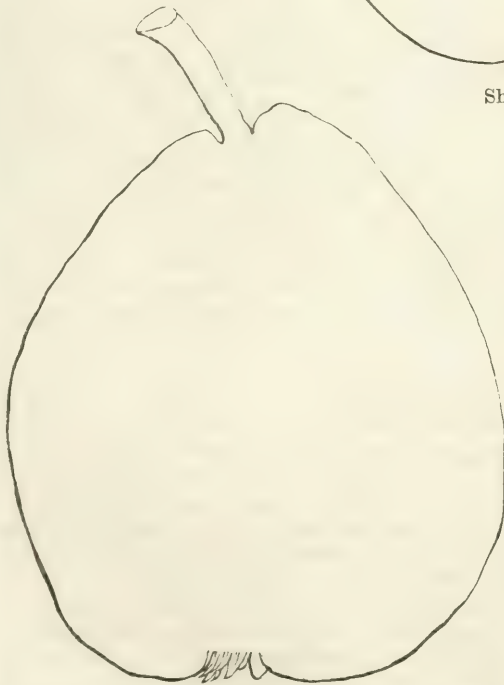
years since, and being of foreign origin, it is somewhat singular that it has thus far had no synonym.

SHEPHARD'S SEEDLING.—*Size*, large, or very large. *Form*, obtuse-pyriform, varying from that of the Beurre Diel to the Bartlett. *Calyx*, closed, set in

coarsely-plaited basin, nearly even with the base of the fruit. *Stem*, short, sometimes scarcely rising above the apex, inserted in a small, wrinkled cavity. *Skin*, green, coarsely dotted, and with some splashes of russet, especially at the stem and calyx, dull yellow at maturity, and frequently marked with brownish-red cheek. *Flesh*, yellowish-white, melting and juicy, a little granular at the core. *Flavor*, rich, with slight astringency, resembling that of the Beurre Diel. *Seeds*, small, light brown. *Quality*,



Shephard's Seedling.

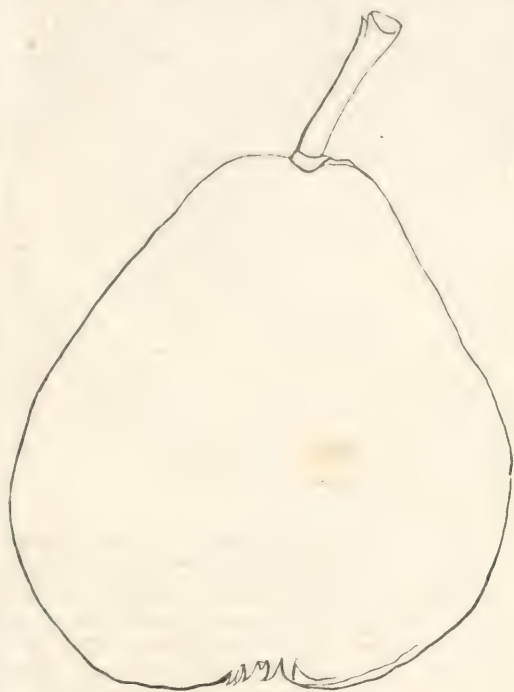


Emile d'Heyst.

“very good.” *Tree*, hardy, vigorous and prolific. *Origin*, Dorchester, Mass., supposed to be an accidental cross of the Bartlett and Beurre Diel, both of which are growing in the grounds where the Shephard was raised.

EMILE D'HEYST. — *Size*, above medium, sometimes large. *Form*, obtuse-pyriform, outline irregular, surface a little uneven and knobby. *Calyx*, closed, set in a ribbed cavity. *Stem*, rather stout and short, planted with little or no depression. *Color*, dull green, becoming yellowish at maturity, covered with dots and traces of russet, and occasionally reddened on the side next the sun. *Flesh*, yellowish-white, melting and juicy. *Flavor*, rich, saccharine, not sweet,

with a very agreeable, piquant, vinous flavor, resembling the *Beurre d'Arenberg*. *Seeds*, small, long, narrow, sharply-pointed. *Season*, October to November. *Class*, "best." *Tree*, hardy, tolerably vigorous, a little thorny, and manifestly a seedling from the *Calebasse* class. This variety was produced from seed by Major Esperen, of Malines, fruited first in 1847, and was dedicated to "Emile," the son of our worthy pomologist, Mr. Berckmans, of New Jersey. Its bearing qualities are not ascertained, but it promises to be sufficiently productive, and will, without doubt, take a high rank among our best late pears.



Buerre Kennes.

BEURRE KENNES.—*Size*, medium. *Form*, pyriform, inclining to turbinate; some specimens much flattened at the poles. *Calyx*, sunk in a moderately deep cavity. *Stem*, about one inch in length, planted on the apex, sometimes in a fleshy ring or protuberance. *Color*, brownish-green, clouded with a gauze-like covering of russet, stippled with red and gray dots; at maturity, yellowish, suffused with a mixture of brown and crimson on the sunny side. *Flesh*, yellowish-white, melting and juicy. *Flavor*, sweet, rich, agreeably perfumed. *Season*, October 1st to 15th. *Quality*, "very good;" may prove "best." *Tree*, not yet proved on the pearstock, but sufficiently vigorous on the quince. A new Belgian variety, described in the *Annales de Pomologie*. The fruit is borne in clusters, and adheres strongly to the branches during the autumnal gales.

(To be continued.)

GARDEN VEGETABLES, NO. 5.—SWEET CORN.

BY WM. CHORLTON.

To write anything on the cultivation of Indian Corn would appear, on first consideration, like a waste of words. However, as we so often see only an indifferent quality, and so seldom meet with a good or regular successive supply, a little talk respecting it may be of service to some of your readers.

Here we have a true Native American, which is known amongst botanists by the cognomen, *Zea Mays*, and is one of the very numerous family of *Cereals*.

Corn, in general, will always give a good percentage of interest when well cultivated, and Sweet Corn, in particular, is not, strictly speaking, wholesome, unless it has a supply in the soil of the required ingredients for the formation of a perfect

structure. With this, a good cook, and well-worked base, we may throw to the winds the physician's advice with regard to the avoiding the use of Green Corn during cholera times.

Like all other vegetables, this is the better with good drainage and deep tillage. A well-broken, strong, but friable, fresh loam, in which is a due deposit of vegetable matter, phosphate of lime, and ammoniacal salts, is the best. Where there is a deficiency of any, or all of these, it will always be found that the addition of vegetable matter, bone dust, or guano, separately or collectively, will have a great influence on the productiveness and better quality of the grain. Every housewife knows the difference in the cooking of ill or well-fed beef, and how far the want of proper food makes the flesh tough and fibrous. The same applies to the esculent which we are discussing; for, according to the supply of constituent elements during growth, so will the seeds shrink in boiling for the want of substance, or swell up to distension by a redundancy.

If the seeds of Corn are planted in the open ground before some solar heat has been diffused into it, they are subject to rot; consequently, it is best to wait until the opportune time. In this latitude—40°—this generally happens about the middle of April. Further south, it will be earlier, and north, somewhat later, according to distance or sheltered locality. We may, however, gain something like ten days or two weeks, by planting a portion for the first crop in shallow boxes under glass. In my present position, it is necessary to have an uninterrupted supply, commencing as early as possible, and continuing on until frost. Being so, it may be well to record my own practice. At the beginning of March, a number of rough boxes (three inches deep) are part filled with good earth; the seeds are laid on this four inches apart, and covered one inch. These boxes are placed in a glass house where a night temperature of some 50° is maintained, or, in lieu of such convenience, then, in a cold frame, the glasses of which are kept closed at all times until the sprouts appear above ground; they are also covered with mats, at night, to make secure against frost. Air is afterwards given during the middle part of all warm days, and, when there is no further fear of frost occurring, the earth in the boxes is cut into square patches, each containing four young plants. These are planted out four feet apart, in a sheltered situation. For the next succession, the seeds are planted on the ground level, at the same distance, after making an even surface to lay them on, and afterwards covered two inches. This process forms so many small mounds, and somewhat prevents the tendency to decay, as the immediate soil is thereby rendered drier than it otherwise would be. Throughout the summer, up to the middle of July, other plantings are put in, at intervals of ten days or two weeks, two inches deep, below the surface, and the soil filled in level. By this method, a supply of well-filled young Corn is obtained for gathering every day, from the beginning or middle of July, according to the earliness or lateness of the season, until frost occurs in the fall, and for some time afterwards, as, when such is apprehended, a quantity is gathered, and laid in a dry room, the husks being left on.

Sweet Corn may also be preserved for winter use. For this purpose, when the seeds are a trifle past in the milky state, but not quite ripe, strip off the heads with the husks on, loosen the latter so as to admit the air freely to the seeds, and hang them over a line, in a dry room, until all the moisture is evaporated. The apartment must be very dry, however, or they will become mouldy and worthless. Afterwards the husks may be removed, and the cobs laid by until wanted.

There are several varieties known as Sweet Corn, each possessing more or less of good or indifferent quality. The best which I have so far been able to obtain, was under the name of

Twelve Rowed. This is rather short and small in the cob, averaging from twelve to sixteen rows, with deep and not large seeds, very sweet, fleshy, of a light yellow color when cooked, and a good bearer.

Stowell's Evergreen is a good and prolific kind, averaging twelve to sixteen rows, but not equal to the above.

Large Connecticut has eight rows, with very large seeds. Flavor only second quality.

Early Tuscarora. This is one of the best of the early sorts. There is, however, no other good property to recommend it.

Early Golden Canada, and *Smith's Early White.* These are very early kinds, but small, and not good flavored.

When the intention is the saving of seed, the best plants of a pure breed ought only to be chosen, and no other variety should be allowed to blossom in the same garden, unless very far remote; as there is, perhaps, no other class of plants which will more readily fertilize with each other. The abundant anthers, or male organs (Tassel), are profuse of pollen, which is distributed to a considerable distance by the slightest breeze; and the stigmas, or female parts (Silk), present a great surface to be acted upon, the consequence of which is a probable deterioration, if an inferior root be in the vicinity, and in flower at the same time. In connection with this, some persons remove the small and bottom side suckers, which only bear the tassel on the tops, thinking thereby that the plant is strengthened. I have, by way of experiment, at different times, tried both the leaving on and removal of these suckers, and always find that the seeds are more equally filled, and the heads better formed, when they have been left to blossom. This, in theory, would appear reasonable, on account of the extra amount of pollen which is in close proximity to the silk; and, practically, it is the case.

As the tops are greedily eaten by cattle, it has been advised to cut them above the ears after flowering. I have always observed, that when this has been done before being fit for use, the sweetness is reduced. It may, however, be practised with economy after this period.

To cook Sweet Corn, trim off the husks, and immerse in boiling water, with a little salt. Boil gently half an hour; then take out the cobs, rub over some butter, pepper, and salt, and brown before a quick fire. Another plan, and one which most persons prefer, is to boil as above; afterwards, cut off the Corn neatly, return to a pan containing a sufficient quantity of milk to cover, throw in a tablespoonful of butter, the same of sugar and salt, to flavor, simmer slowly for fifteen minutes, and serve up hot.

THE MAGNOLIA.

BY J. P. KIRTLAND, M. D., PROF. OF CLEVELAND MEDICAL COLLEGE, OHIO.

THE hardy species of Magnolia are among the handsomest ornaments which can be introduced into our lawns. Their infrequency in such localities, and the sickly aspect they too often present when under the hand of cultivation, have led to the belief that their propagation and management are attended with great difficulty.

This difficulty is, however, rather apparent than real, or, at least, is of sufficient magnitude merely to induce the cultivator to place a correct estimate on the value of articles which have required extra care. As much intrinsic beauty is perhaps possessed by the Bouncing Bet (*Saponaria*) and the *Calystegia pubescens*, as by the *Alstromerias*; yet the two former, infesting our grounds as noxious weeds,

are considered as troublesome intruders, while the latter, requiring the skill of an experienced gardener, are valued accordingly. Vegetation springing up spontaneously, flourishing by our neglect, will always be viewed as common, and unworthy of admiration.

The locality in which our experience with the Magnolia has been gained, is fully exposed to the North, and the influences of Lake Erie, between the 41° and 42° of north latitude. Our observations have been made upon the following species and varieties, "to wit:" *acuminata*, *glauca*, *tripetela*, *purpurea*, *Soulangeana*, *Thompsonii*, and *conspicua*. All of these endure our climate as well as the oak, and several of them, under my mode of propagating them, are attaining the size and form of trees, though the natural tendency of the climate is to dwarf them. Even the *Soulangeana*, which, Mr. Meehan says, can be hardly ranked as a tree, has reached the height of fourteen feet (inclusive of four feet of the stock) in the course of twelve years. To the foregoing list, we might probably have added the *macrophylla*, *auriculata*, and *cordata*, had we been able to obtain them, and submit them to a course of trial.

The secret of our success consists mainly in propagating them on a hardy and vigorous stock, which will supply them with a greater amount of nutrition than most of the above species can derive from their native roots. In this vicinity, the *acuminata* is indigenous, and is distinguished by its vigorous habits and tenacity of life. It furnishes all the essential requisites for a stock on which to propagate the other kinds. This stock imparts both vigor and hardness to the grafts, to an extent which, in some instances, converts them from a sickly and dwarf shrub to a middle-sized, vigorous, and durable tree. This has been illustrated very satisfactorily in my grounds, by the *M. glauca*. In near contiguity stand two of this species; one, on its own roots—the other, on the acuminate stock. The first was produced from seeds sown in the autumn of the year 1842; the latter was cut from the first, and engrafted upon a stock of the *acuminata*, in the spring of 1846 or 1847. A careful measurement at this date (January 1, 1857), shows the height of the seedling to be six feet and six inches, and the circumference of its body six and one-half inches, while its engrafted progeny is fourteen feet high, and the circumference of its body is nineteen inches. The former seemed to attain its full development several years since, and, of late, expends its powers in sending off lateral branches and suckers. At best, it is only a weak, ill-shapen, and diminutive shrub; its foliage, during summer, small and shallow, and its blossoms sparse and imperfect. The latter is still a thrifty tree, annually extending a round and well-formed top, with its foliage large and rich-colored, and its succession of flowers for several weeks numbering by hundreds every season.

The *PURPUREA* and *THOMPSONII* are as much improved by the aid of the *acuminata* stock.

The *tripetela* grows thriftily, for a few years, on its own roots, and then inclines to die down to the ground. We have recently engrafted it upon the *acuminata*, where it seems to flourish and give promise of durability.

Our plants of the *conspicua* and *Soulangeana*, on their own roots, died some years since, but not until we had secured both kinds by engrafting. Their premature deaths preclude our making a comparison between them and their engrafted progeny.

Of the latter, we have some fine specimens. One of our *conspicua* presents a very uniform, round head, fourteen feet high. Its body girths, twenty-one inches. The graft was inserted in the year 1846. All of my trees of the *conspicua* and *Soulangeana*, promise an abundant bloom the ensuing spring, as every limb and spur are terminated with blossom buds. They never suffer injury from the cold

of our winters; even the last winter did not affect them, and it is rarely the case that they are cut off by late vernal frosts. Two years since, a snow storm occurred after they had fully expanded, and of course impaired their beauty. Such an event is rare. The blasting impression of a cold and dry northeasterly wind, is more to be dreaded.

As their bloom appears before their leaves, and at a period when nature generally presents a wintry aspect, it is important to group them with evergreens.

At the time when their blossoms are fully opened, the heads of the trees appear, at a distance, as though they were invested in a mantle of pure white, and attract the attention of the public universally.

The inscription—"Alas! poor Yorick!"—could not have been reiterated oftener, and with more varied accents, by wayfarers, in passing his grave, than we hear the notes of admiration uttered daily during the flowering season of the Magnolias. "How beautiful! how charming! what can those be?" are the varied exclamations of the travelling portions of the community.

In our next article, we shall treat on the modes of propagating and engrafting the acuminata.

BICTON PINE STRAWBERRY.*

THIS very showy berry is a desirable acquisition where a variety are cultivated; either by itself, or interspersed with the scarlets, it is highly ornamental, and deserves, also, for its other merits and size, to be in every collection. It is a foreign variety, received at first as not hardy, but time has shown that, with moderate protection, it may be wintered anywhere, and bear a fair crop of large, handsome berries, having an agreeable, musky aroma.

Large, roundish, pale flesh color, with a reddish tinge on the sunny side; fragrant, and tolerably high flavored. A moderate bearer. It is the largest and finest white Strawberry yet known. Flowers, hermaphrodite.

EVERGREENS.

BY JOHN SAUL, WASHINGTON, D. C.

THE lovers of fine Evergreens will long remember the severe tests their favorites were put through the past winter (1855-6), which, for severity, was without a parallel. It may be safely said, that the plant or tree—whichever it may be—that passed safely through such a degree of cold, in any given latitude, may there be considered hardy; but I would not say that every plant destroyed was tender where that destruction took place. Many rare evergreens, when first introduced, are grown rapidly and tenderly, in pits or greenhouses, and, when planted out permanently, the ground is well prepared as regards trenching, adding good composts, &c. As a consequence, the plants grow rapidly, and, late in the season, the wood is soft, watery, and immature; and, when winter's icy hand is upon them, can we wonder if they wither within his grasp and die? Yes, thousands of comparatively hardy plants are lost annually in this way, and, had we not known better, they would be pronounced tender. If people will grow those things vigorously and rapidly, they must protect them until they are of good size, and well established. Still, it is well, occasionally, to have such a winter as the last, as it tests what aspires to be hardy.

Cryptomeria japonica.—Well may this be called the prince of Evergreens, such

* See Frontispiece.



BENTON FINE.



is its beauty and extreme gracefulness. It has no superior, and I question much if it has an equal in the whole range of hardy Evergreens! Don't be startled, reader. I except none! No, not even the beautiful Hemlock, the handsome Norway Spruce, or the graceful Deodara! Where is the person who ever read Mr. Fortune's description of this beautiful tree in the northern provinces of China, and did not wish for the time when we should have such specimens among us? yes, when it should be scattered broadly and widely over the country as our commonest Evergreen, the Hemlock or Norway Spruce; and I risk nothing in saying that, before many years, it will be planted more extensively than any other. Some suppose it to be rather tender, for the reason that many young plants are annually destroyed; plants that have grown vigorously and very late, with watery shoots, are and will be killed. I have lost some of this description, the past winter, myself. I have seen such plants injured by the early frosts of October. In this city, are some three or four specimens of this plant, which have been planted about five years; they are now of considerable height. The past severe winter, they received not the slightest protection, though in very exposed situations, and where the thermometer must have been from ten to twelve degrees below zero; yet, not a branch nor a leaf was injured by cold, and, when the winter was over, no Evergreen looked better, not excepting the Hemlock or the Norway. How comes it that these plants have done so well? Why, simply from the fact that the wood is well-matured every autumn—that great requisite in fruit-trees, and quite as much in Evergreens. The part of China from whence this comes, has a climate as severe in winter as our Northern States; indeed, it is well-known that the climate of China more nearly resembles that of the United States than any other, and plants from that country do much better here than in Europe (such as Salisburia, Wigelia, Forsythia, Wistaria, Magnolia, and many others), and why not our beautiful Cryptomeria?

Araucaria imbricata.—Many good specimens of this exquisite Evergreen stood about this city for the past five years, but the cold of last winter levelled all to the snow-line save one, and that was the largest and strongest plant of all; the foliage and some of the branches were injured, but it pushed out nicely all over the plant. Now, how comes it that this plant survived, when all others were destroyed? It was not situation, for it stands in one of the coldest points about the city. It was its age and strength which enabled it to weather so many degrees of frost, for it received no protection like the cryptomeria. When the plant attains age, has firm, well-matured wood, and short-jointed, well-ripened shoots, it will endure many degrees more cold.

Cedrus deodara.—The graceful and beautiful Himalayan Cedar suffered considerably. Many large and magnificent plants were killed to the snow-line, whilst many others passed safely through this intense cold; the cause of this difference was the same as in the other Evergreens. When the ground had been highly prepared, and the plants were growing vigorously, they, suffered most; on the other hand, plants of more moderate growth, with well-matured shoots, escaped unhurt. It may be considered hardy in this latitude, save in such winters as 1855-6, when the loss of some rapid growing young plants may be expected; but surely, because a few plants are occasionally lost, people will not give up growing this exquisite Evergreen?

Cedrus Libani, Cedar of Lebanon.—Generally, this has stood well with us, though there are instances of one or two good, vigorous young specimens being destroyed; the cause the same as the Evergreens already noticed. Established specimens, with well matured wood, stood well. It may be considered as hardy in this latitude.

Cupressus macrocarpa, or *Lambertiana*.—What a pity this magnificent California Evergreen is not hardy ! A plant stood out here some three or four winters, and, though well covered up, was more or less injured each winter until the past, when it was totally destroyed. It is a very rapid grower, throwing out horizontal branches similar to the Cedar of Lebanon, and is of a deep, rich green. Planters in the South, should not overlook this beautiful Evergreen.

Taxodium sempervirens, Redwood of California.—This is an enormous tree in California, and a very beautiful one. It is a very rapid grower. Many good specimens of it stood out here for some four or five winters, during which it was slightly injured, until the last, when they were totally destroyed, save one. This was the largest, and had its top and all the side branches destroyed, but has since grown out finely. It received no protection. This is another illustration of what plants will stand when they attain age. Persons should well protect all these valuable Evergreens until they attain a considerable size ; after which the majority will grow well.

Abies Smithiana, or *Morinda*, Weeping Himalayan Spruce.—This very beautiful Spruce has proved quite hardy in every situation in which I have seen it tried, without the slightest protection ; not even were the leaves browned, but it retained its deep green hue through and after the coldest weather. Planters should not lose sight of this exquisite Evergreen. It is a deeper green than the Norway, the branches droop most gracefully, and is a rapid grower.

Abies Menziesii, Menzies' Spruce.—This very distinct species has proved perfectly hardy in this region as well as farther north ; this, however, may be expected from the high latitude whence it comes on our northwestern coast. Though not as graceful as some other species, it is very distinct and striking. The foliage has a pretty glaucous hue, and all lovers of Conifers should plant it.

Abies Douglasii, Douglas' Spruce.—This noble tree is scattered over a considerable portion of our western coast ; whilst it is found low down, mixed, in forests, among *Taxodium sempervirens*, it is also found at considerable altitudes. Its range of latitude on the Rocky Mountains is also considerable. It is described by all travellers as one of the most beautiful trees in nature, feathered with branches from base to summit ; its branches are gracefully pendent, which impart to it a light and elegant appearance. Though not cultivated many years, many fine specimens are to be found in various parts of Britain, it having proved a very rapid grower. In this latitude, it has proved hardy, having passed uninjured through the past severe winter without the slightest protection. This beautiful tree deserves the attention of planters, for not only is it hardy, but a rapid grower, and one of the most graceful and beautiful of the *Abies* or *Spruces*.

Picea cephalonica, Cephalonian Silver Fir.—Where the *Araucaria imbricata* is tender, this will be found the best substitute for it, partaking somewhat of its character. It has now been proved one of our hardiest *Piceas* ; it is, however, a slow grower, which to some may appear to detract from its other good qualities. The cultivator of good Evergreens cannot, however, pass it by, as its unique and beautiful appearance is desirable in the smallest collection.

Pinus excelsa, Bhotan Pine.—Botanically speaking, this Pine is closely allied to the White Pine of the States (*Pinus Strobus*) ; it is, however, much the most beautiful tree, has longer and more graceful foliage, and more glaucous. It is also a rapid grower, and perfectly hardy. This magnificent tree I consider the best of the really hardy Pines.

Taxus baccata hibernica, Irish Yew.—The late Mr. Loudon said this was the best hardy cemetery tree for England, and it is quite as invaluable here. The beauty of the Oriental Cypress (*Cupressus sempervirens*), as well as its adapta-

bility to cemeteries, is well known, but in no region of the United States, where the thermometer will sink 20° below freezing point, can this tree be grown; hence we must find a harder substitute, and this we possess in the Irish Yew. During this severe winter, all established plants stood well, losing only a portion of the foliage and outer branches, but speedily shooting out again. It is one of the most erect growing trees, of a deep, sombre green, and in keeping with all sculptural and architectural objects.

Taxus baccata, English Yew.—Why is not this valuable Evergreen more generally grown? About this city, it grows as rapidly and beautifully as in England, withstands our severest cold without the slightest protection, and is in every way desirable and beautiful. I would therefore urge strongly its more frequent planting.

Magnolia grandiflora.—Of all the broad-leaved Evergreens, this is unquestionably the finest, being immeasurably in advance of the fine English Laurels, Portugal Laurels, &c., in foliage; forms a nobler and more stately tree; and to these fine qualities add its superlatively beautiful flowers. All large, well-established plants passed safely over our severe winter, and many bloomed finely the past summer; in most instances, however, they lost their foliage, and where plants were young, and grown vigorously, they were considerably injured. It may, however, be taken as a rule, that established plants, with well-matured wood, will sustain 10° below zero without injury.

English and Portugal Laurels.—Our ordinary winters, both these beautiful Evergreens will stand with impunity, but such a winter as the past (1855-6), they are levelled to the snow-line, which, from their beauty, is much to be regretted; they should, however, be cultivated extensively South, which their beauty richly merits.—*Nov. 1856.*

SEASONABLE HINTS.

BY THE LATE A. J. DOWNING.

If you wish to raise the earliest vegetables, or get the best growth possible in any annual plant, be sure to use well rotted manure. The chemists may say what they please about the loss of ammonia and the gases, and what they say about the actual waste in letting manure rot before using it, is true enough, doubtless; but, setting that aside, practice has told me, time and again, that I can get a crop of peas four or five days earlier than my neighbors, in the same soil, by using manure a year old, and *quite fine*, when they use it almost as fresh as when it first comes from the stable. The fact is, fresh manure is like corned beef and cabbage—very hearty food, but requiring a strong stomach. Annuals of moderate growth, like something easier of digestion. As all old gardeners know this by constant trial, you can no more beat the value of rotted manure out of their heads than you can make an elder bush bear white berries by scolding it.

It is quite wonderful what a passion some men have for what *they* call *pruning* trees, and what I call murdering them by inches. Only put a knife or saw into their hands, and a tree before them, and you will see that it is only because they were not born Caliphs of Bagdad, that their neighbors have any heads left on their shoulders. Gardeners from the "auld countrie"—especially all such as have served their time behind a wheel-barrow, are mighty fond of this sort of thing. One of these "gentlemen" was lopping off and utterly despoiling the natural ways of a fine linden-tree lately. When he was cross-questioned a little as to what he was about, ruining the tree in that manner, he replied: "Bless yer sowl! I'm only a littin' the *hair* until it!" But, in fact, many a better gardener than this Paddy

—many a man who has done as good things in the gardening way in Great Britain as can be done anywhere in the world—is placed in the same awkward fix when he comes into a country with a dry, hot climate like the United States. All his life-long has he been busy learning how to “let the air in” to the top, and keep the wet away from the roots, till it is a second nature to him, and he finds it almost as impossible to adopt just the contrary practice when he gets to America as it is for a Polar bear to lay aside his long, white, furry coat, and walk about like a tropical gentleman in his natural nankeen pantaloons and waistcoat. He cuts away at his trees to let in the sun, and raises up his flower-beds to drain off the wet, when it is just the very sun and drought that we have too much of. No man can be a good gardener who will not listen to reason, and in a country where nature evidently meant leaves for umbrellas, take care how you snap your fingers at her, by pruning without mercy, and “*littin’ the hair in!*”

If you find some of your transplanted trees flagging, and looking as if they were going to say good-by to you, don’t imagine you can save them by pouring manure water about their roots. You might as well give a man nearly dead with debility and starvation, as much plum-pudding as he could make a hearty meal of. The best thing you can do is, first to reduce the top a little more (or a good deal more if needful), for the difficulty most probably is, that we have more top to exhaust than root to supply. Then loosen the soil, and water it if dry, and lastly, *mulch* the ground as far as the roots extend. This you may do by covering it with three or four inches of straw, litter, tan-bark, or something of that sort, to keep the roots cool and moist, so as to coax them into new growth. Watering a transplanted tree every day, and letting the surface dry hard with the sun and wind, is too much like basting a joint of meat before the kitchen fire, to be looked upon as decent treatment for anything living. If your tree is something rare and curious, that you are afraid will die, and would not lose for the world, and yet that won’t start out, in spite of all your wishes, syringe the bark once every night after sunset. This will freshen it, and make the dormant buds shoot out.

If you find any of your fruit-trees barren, from too great running to wood, about the first of June is the time to shorten back the long shoots, and clip or pinch off the ends of the side shoots, so as to force the tree to expend its substance in making fruit buds, instead of wasting every bit of sap in overgrowth.

Make war upon insects all this month, and especially at the end of it, as if it were the chief duty of man to destroy them (there is no doubt about its being the chief duty of the gardener). Tobacco water is your main weapon, and with a syringe or a hand-engine, you can, if you take them in time, carry such slaughter into the enemy’s camp as would alarm the peace society, if there is one among these creeping things. Slugs on rose bushes, or the green fly on plants, will make their appearance by thousands and tens of thousands, as the weather gets hot, and the nights summery. The time to open your light artillery upon the “enemy,” is very early in the morning, or just after sun-down—the latter the better time, by all odds. Find out whether they “roost” on the under or upper side of the leaves, or nibble away at the tender points of the shoots, and shower them to the tune of “Old Virginny”—*i. e.*, strong tobacco water. If your plant is of a delicate substance, mind, however, that you don’t give it a fainting fit as well as the vermin. Always make the tobacco water by mixing some rain water with it, for such plants, and, if you have had no experience in the matter, dilute and use some on a single plant before you undertake your whole border. After half a day, you can tell how it works, and act accordingly. What you want is, just strength enough to kill the insect, and not enough to injure the young leaves.

AN OLD DIGGER.

GROUNDS FOR FARM HOUSES.

BY L. DURAND, DERBY, CONNECTICUT.

THE grounds which are about a farmer's dwelling are of more or less importance, and they should be studied and looked after by the farmer himself. The ordinary manner in which farmers look upon this subject is more a matter of indifference in regard to site or situation as will be more often seen by the choice they make in selecting their house lots. In laying out grounds for farm houses, no general rule perhaps can be given as to extent of land occupied; all will depend on circumstances, the amount of lands to be laid out, the expense of doing the work, &c. Every farm house should have some grounds around it appropriate to and with the style of the buildings which the farmer has adopted for his residence. At least an acre of land should be set off for this purpose, for the most moderate and least unpretending farm house in style and architecture, size, &c. And yet how often is it that we see farm houses set as near the highway as possible, while old rubbish, such as broken carts, ploughs, sleds, wagons, and the like, lie scattering by the broken garden fences, while the wood-pile is often left so near the door that, taking the broken farming tools and the wood together, they make up the wan features of the outside show of the farm house. All this comes from a want of a little taste shown and laid out on the part of the farmer, which is so often neglected by him as being of no particular consequence. But this influence for neglect of home embellishments on the part of the farmer does not stop with him; it is transmitted to his sons, and they, in turn, either follow in the footsteps of their sire, or else they abandon the farm and farm pursuits altogether, and go into some business which they can make some "money" at and live. Now who cannot see what the natural influences would come to when a life is spent on the farm with no object in view save that of buying lands and a constant accumulation of hard labor to subdue the same, to a profitable account. But when a spirit of home improvements takes possession of the farmer he will very soon show it out in his life; his sons will naturally become imbued with the same spirit, and hence a whole revolution on this subject may take place in a neighborhood in a few years. In speaking of grounds for farm houses, we do not intend to include "Park Scenery," though it may be all well enough to allude to it. Generally speaking, in this country the best kept grounds are the public ones, such for instance as "Greenwood Cemetery," also "Mt. Auburn" and "Boston Common;" each and all of these places are worthy the attention of all lovers of rural art. Among those grounds of a private nature and large dimensions, we may name "Montgomery Place," "Barevurich," "Kenwood," "Mount Hope," &c., on the Hudson. Also in connection with these we may name Mr. Wadsworth's farm, "Meadow Park," of several hundred acres interspersed with giant oaks and elms at Genesee. Of course no ordinary or common farmer can have grounds of such dimensions, nor is it desirable that they should have. Yet the influence of such works and outlays by men of liberal means has a great effect on the rural population of the country at large, much more so than they have a just idea of. And while the common farmer's grounds may be confined to a single acre, yet it may be made as useful as grounds of tens and hundreds of acres in extent. In laying out grounds of some extent, it is usual to have the roads or carriage "drives" take a serpentine or circuitous route winding about, forming all sorts of "freaks" in their course. But when the grounds are tolerably level or slightly inclined, we think that as good or better effect may be produced by crossing the drives at a

nearly right angle with each other. Also a bold straight drive from the street directly up to the house, when the situation of the house will admit of it, may have as good or better effect than the usual circuitous drive. Of course, a drive straight over a knoll or bright point of land would not be economy or in good taste. But in this case the drive should take the circuitous route, and wind around on the lowest grades to overcome the resistance easy. As to the natural forest trees, they may be managed according to the owner's taste pretty much. About all the attention they require will be to keep down the underbush and thin out some of the thickest of the smaller trees, take off the dead limbs, then leaving the trees to take pretty much their own course. Stagnant waters are generally looked upon as a nuisance, yet on large grounds there may be numerous small ponds that are fed from the bottom by springs. Such ponds may and will often remain apparently fresh through the year, and although not as agreeable as running water, yet they are worthy of protection and consideration by the farmer. It is not to be expected that the common farmer can spend or lay out a great amount of time, expense, or labor, on grounds of this character. Hence he should choose a house lot where nature has or will do a good part of the labor, though the farmer will consider that his extra labor on such grounds is not lost or thrown away. This work can be done by littles and at odd spells where the farmer has really a taste for such work, and in no way will it interfere with his ordinary farm work. One of the finest ornamental shrubs that may adorn the farmer's grounds may be found we think in the common "Forest Laurel," or what the farmers call "Green Ivy," to be had in any quantities in most all forest lands. This shrub, as is well known, is a dark evergreen through the year, growing from three to six feet high, as may be. About the 20th of June it comes into flower, and then for some two weeks may be seen some of the finest variegated flowers, bright pink, light pink, &c. Any one who will take the trouble to examine these flowers by going to the forest may see for themselves if they are not worthy of note and remark. We declare that if the common *Kalmia* was a foreign shrub and was imported and sold at \$5 or \$10 a plant, it would be seen and found in most of the amateur's grounds in the country. But as it can be had for asking or nothing as a wild shrub no cultivator takes any notice of it whatever, and so the "Green Ivy" is left to its own glory, and is considered of no sort of consequence, unless it be to "poison sheep" by eating the green leaves in the winter season. This may be true if the sheep were to eat the leaves to any great extent, which they may do when the ground is covered with snow. It is our opinion that this shrub may be transplanted in the spring or fall with little or no trouble, while the after culture would be or need but little attention. Who will try this shrub the coming season, and report progress on the trial, as an ornamental shrub for grounds in future, for, as an evergreen bush, we think it (without the flowers), as highly ornamental and instructive.

NOTES ON EVERGREEN TREES.

BY J., WESTCHESTER, PA.

NOTWITHSTANDING the large number of Evergreen-trees introduced into this country, I doubt very much any one being able to name more than six varieties that are perfectly unexceptional, as regards hardiness, shape, color, adaptation to every soil, &c. Now I am aware I am going contrary to the favorite hobby of some scores of wealthy amateurs, who have both the time and means to gratify their tastes by protecting the more tender varieties through the winter; yet those who have not the space to devote to so large a collection, are often at a loss to

select such as are adapted to their particular situation. After experiencing such a severe winter as the one we have just passed through, I, for one, am willing to discard quite a number of half hardy trees from my list. Who has not frequently heard the remark, lately, that we may never have so hard a test for our tender plants again? And now perhaps just as they become fully established, and are a pride to the owner, some bright frosty morning you will find the thermometer 20° or 30° below zero, and they are forever after an eyesore, being the fashionable color of *Victoria Brown*; therefore but few of the rarer trees will answer the purpose of a limited grower.

Upon examining several of my old specimen trees after spring opened, I was exceedingly disappointed in finding them entirely dead. The *Cupressus funebris*, three feet high, killed root and branch; *Buxus arborescens*, do.; *Araucaria imbricata* has been lessening every year, and finished its course this spring. *Taxus baccata*, *hibernica*, *pyramidalis*, &c., killed nearly to the ground. *Euonymus japonica* and its varieties about used up. *Cedrus libani* and *deodara*, the former dead, and the latter, a tall beautiful plant, now resembles an old broom, worn to the stump. European Silver fir (*P. pectinata*), contrary to my expectations, is completely spoiled; even our common cedars and junipers are severely injured.

And now for my list of six Evergreens, which embraces the following:—

The Norway Spruce (*A. excelsa*) stands pre-eminent and unrivalled; it combines all that the most fastidious could expect, as it is applicable to all situations and soils, whether in the neat front yard of the modest cottage or farm house, or the more extended lawn of the wealthy proprietor; standing alone, it becomes the pattern of a perfect tree, being of a regular pyramidal shape, a graceful drooping habit, rich green color, which is not affected by the most intense cold, and an extremely rapid growth; the foliage may not be quite so delicate as the following; yet there is something so majestic in its appearance as almost to command respect.

Hemlock Spruce (*A. canadensis*) is most assuredly a formidable rival to the preceding; it is particularly applicable to lawns where it will have room to develop its beauty. Some superb specimens are in the grounds of the late Samuel and Joshua Pearce, near West Chester, Pa.

Bhotan Pine (*P. excelsa*) is, in my estimation, the finest by far of all the pines, being close and thick, contrary to the majority of the family; the leaves are long and handsome; its branches have a tendency to droop, rendering it particularly graceful; it proves entirely hardy with me, having grown it for six years; my specimen has reached the height of nine feet. In one locality I have heard complaints of an insect destroying the leader, but as it does not appear to be a regular complaint I have retained it on the list.

White Spruce (*A. alba*), known with us as the "Double White Spruce." It makes a magnificent tree, although some of the species approach so near the *A. Nigra* as hardly to be distinguishable from that variety; it is easily known by the peculiar bluish green leaves and numerous short branches; it is regular in its growth, and makes a thick mass of foliage.

American Arbor-vitæ (*T. occidentalis*) is known too well to need a description, although it richly deserves one. Any person who would plant the Chinese variety in preference to the former, I think, must certainly be devoid of taste, as the latter is, at best, but an open, straggling grower, and is rather tender also.

Siberian Arbor-vitæ (*T. Siberica*), although rather more of a stranger, promises to be a much greater acquisition than I expected. The color is of rich dark green, of a perfect shape, extreme hardiness, and will make a splendid specimen either planted singly or in groups.

So much for my list; and now I hope it may wake up a retort, as if there is a better selection to be made I should like to own them.

N. B.—I unintentionally omitted that my *Cryptomeria japonica* was used similar to Mr. H. W. Sargent's, of Woodnethe, having great difficulty in keeping it heretofore, but the past winter it had no protection, and has lived beautifully; but may go next winter, who knows?

VEGETABLE PHYSIOLOGY.—NO. 2.

BY YARDLEY TAYLOR, LOUDON COUNTY, VA.

ALMOST all vegetable physiologists, in describing the assimilation and growth of trees and plants, assume that the sap, being imbibed by the roots, and containing mineral and other matters necessary for growth, is first carried by the pores of the plant to the leaves, and there uniting with the carbonic acid gas imbibed by them, is, by the aid of sunlight, decomposed, and thus adapted to the growth of the plant. It is then returned downward by another set of vessels, and is deposited as new layers in the growth of the plant. This theory, like many others in the infancy of investigations, is likely to be modified, and one assumed more in conformity with the simplicity always observable in nature's laws when fully understood. Where is the evidence that sunlight does decompose carbonic acid gas, or release oxygen from its combination with carbon? The fact that carbonic acid gas is imbibed by the leaves, and oxygen given out, may account for the origin of the theory, but now, when chemistry is shedding its light on this branch of science as well as others, it would seem that electricity can, with more plausibility, be considered as the decomposing agent.

Professor Gray, in his *Botanical Text-Book*, considers "light" as affecting "the chemical decomposition of one or more of the substances in the sap which contains oxygen gas, and the liberation of this oxygen at the ordinary temperature of the air." He then continues: "The chemist can, in certain cases, liberate oxygen gas from its compounds, but only by the aid of powerful reagents, or of a heat equal to red-hot iron." But does not the beautiful art of electrotyping, or gilding by galvanism, separate "oxygen from its compounds" without a degree of "heat equal to red-hot iron?" And who will say that a very small stream of electricity from a galvanic battery, may not effect the same object, only requiring longer time? Nature effects by imperceptible degrees what man can only accomplish with more rapidity in less time, and on a smaller scale.

In the *Farmers' Guide*, published in numbers, and commenced in 1850 by Leonard, Scott & Co., and edited by Henry Stephens and John P. Norton, is an essay on "Electro-Culture" that serves to explain the theory under consideration. In this essay, William Sturgeon, of Manchester, who had successfully applied this principle to cultivation, and has shown the relation which exists betwixt the electricity of the air and the earth, says that "this active element of nature is so universally diffused throughout every part of the terrestrial creation, that it becomes an occupant of every part of the earth's surface, and of the shell of air that surrounds it," and considers that "trees, shrubs, plants, flowers, and crops of every kind, partake of this electrical distribution, and that each individual object is possessed of more or less of this extraordinary element. A disturbance of the electric fluid, in any body, may be accomplished either by abstraction, addition, or by merely forcing a part of it to some particular side of the body operated on.

"In the first condition, the body would be *electro-negative*, in the second, *electro-*

positive, in the third, *electro-polar*. Any individual object or body may be *positive* to another, whilst it is *negative* to a third. Hence the *absolute* electric state that any body can appear in is in the *polar*—a condition growing plants must necessarily assume. A similar inequality of electric force occurs among growing plants and their manures, and even amongst the various elements which constitute the latter, no two of them being precisely alike at the same time. Hence the particles constituting each and every variety of soil, are endowed with a peculiar electric force—a circumstance of immense importance in the contemplation of the vegetable physiologist.

“The metals are the best electrical conductors, but there are many other kinds of matter which rank high in this capacity; such are trees when full of sap-water, and consequently all growing plants by virtue of the water they contain. Moist land is also a conductor of electricity. Dry sand is a bad conductor; so is dry mould of every kind; but limestone rock and dry chalk are still worse; and dry air is a worse conductor than any of the rest, though moist air is a tolerably good conductor.

“Another grand law of electricity is, that the transmission is uniformly from the positive to the negative parts. Now, as this is a universal law when electric fluid is transmitted from one body or object to another, it follows that the *electro-positive* state of the air, contiguous to growing plants, causes the latter to become *electro-polar*, even when they are in the act of transmitting fluid to the ground, their upper parts being *negative*, relative to the roots, whilst the latter, in their turn, are *positive* to the contiguous manure and soil, to which they deliver up the fluid, or, rather, such portions of them as are not retained for the expansion and growth of the plants.

“From this train of reasoning, we are led to some of the most interesting points in vegetable physiology. The *electro-polar* condition of plants qualifies them, in an eminent degree, for the performance of those operations which develop electro-chemical phenomena, and, what is very remarkable, the laws of this beautiful branch of electricity are rigidly enforced, and admirably complied with in the decomposition of carbonic acid gas by their foliaceous parts; for, in this process, the *electro-positive* carbon is drawn to the *electro-negative* poles of the plants in precisely the same manner as any *electro-negative* pole, artificially made, would release the carbon from the oxygen, and select it in preference. This remarkable fact, based as it is on the strict principles of electric action, not only establishes a correct view of the *modus operandi* by which plants are enabled to acquire food through the instrumentality of their foliage, but appears to be well calculated to give a clue to every operation by which vegetables become nourished, and elaborate their food, in all the variety of structure they so beautifully assume.

“Contemplations on electro-chemical forces, thus disencumbered of complexity, lead by easy gradations to many recondite operations of nature, and to the discovery of those hidden actions by which the ever-varying transformations of matters are accomplished. They are well calculated to afford a clue to those atomic operations which, in silent reclusion, select the appropriate materials, convey them to their destination, and elaborate them in the structure of every vegetable tissue that is found within and upon the land.”

Here, then, this theory, for its simplicity and adaptation, challenges our consent—no roundabout way of attaining an end; for if the former were the true one, and all matters necessary for growth, had to be conveyed to the leaves to be organized or fitted for assimilation, we might reasonably suppose that the deposition of woody matter would be greatest near the leaves soon after it was prepared. But we know the reverse of this is the fact, and very wisely has it been so decreed.

The larger increase in bulk near the roots enables the tree to withstand the accumulated force of the winds, in consequence of an increase of its top.

One circumstance may be noted that has been brought forward as a strong argument for the downward flow of sap, and that is the fact that amateur cultivators sometimes practise what is called ringing a branch to induce fruitfulness—that is, cutting a ring of bark out of a limb, say a quarter of an inch wide, or more, during summer. The effect is, that while the growth of leaves and smaller branches is retarded, that part immediately above the incision will increase faster than the part just below. And if we admit that the sap rises to the leaves through the sap-wood, and descends beneath the bark, carrying with it matter ready prepared for growth, the fact might be accounted for on the principle supposed. But by admitting electricity as the decomposing agent, the fact can be as readily accounted for. The carbonic acid gas imbibed by the roots and by the leaves, if decomposed by electricity passing either upward or downward, would deposit its carbon nearest to the place of entrance—that is, that what was received by the roots would form wood nearest the roots, and that nearest the leaves would form the wood of the upper branches. Hence the carbonic acid gas, in descending from the leaves through the sap-water (the largest part of which lies immediately beneath the bark), and meeting with an obstruction by the incision and removing a portion of the bark, would accumulate and be decomposed there, thus adding a larger portion of organizable matter to a less vigorous circulation, thereby inducing greater fruitfulness; for it is a well-known fact among orchardists, that a rapid growth in wood is opposed to fruit bearing, and *vice versa*.

The writer, having long felt an objection against the theory of the downward flow of sap, as never having seen any facts in support of that view, was gratified in reading the article on “Electro Culture,” as the explanations on assimilation and growth of vegetables in that article appeared more reasonable, and more in accordance with known facts, and was entirely free from the difficulties of the old theory. Claiming the right of every individual, however humble, to give his views on any subject of inquiry, and wishing to see candid investigation promoted, this essay is submitted to the readers of the *Horticulturist*.

DESCRIPTION OF A COUNTRY HOUSE.

DESIGNED BY FREDERICK C. WITHERS, ARCHITECT, NEWBURG, ON THE HUDSON.

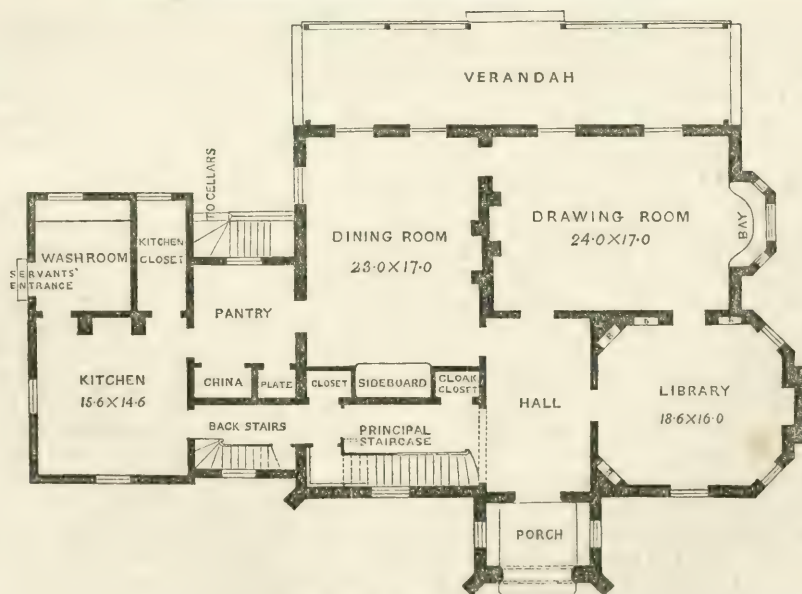
WE have engraved for this month a country house, which is to be built on a site where a fine view of the Hudson River, with the Highlands and West Point, can be obtained from the windows of all the principal rooms.

The entrance porch is made (as it should be in every house) a marked feature, and is so arranged that it can be inclosed in the winter by hanging doors to the archway.

Upon entering the hall, the visitor finds himself directly opposite the door of the drawing-room, which communicates with the dining-room on one side, and with the library on the other, the three rooms thus forming an elegant and convenient *suite*.

The outside angles of the library are cut off, and the windows and chimney are placed in such a way, that a person sitting by the fire may, at the same time, enjoy the lovely prospect which this room commands. In the opposite angles of this room, book-cases take the place of the windows; there are also book-cases at the sides of the door leading to the drawing-room. The walls of the library are to be panelled, and the floor inlaid with oak and black walnut.

The dining-room and drawing-room open upon an ample veranda, directly facing the river, making a pleasant resort for summer afternoons. The dining-room is connected with the kitchen by a convenient pantry. The principal staircase is entered from the main hall through an archway, and leads to the chamber



PLAN OF PRINCIPAL FLOOR.

floor, where are four bed-rooms and a dressing-room over the main part, with a bath-room and two servants' bed-rooms over the kitchen wing.

The house is to be built of good brick, with cut-stone dressings, and is to be left unpainted. The mortar used is to be darkened, in order to avoid the white lines which give so cold and disagreeable an appearance to ordinary brick work. There are many reasons why we should leave brick houses unpainted. Their color, when bricks of good quality are used, is not unpleasant, and time softens and varies the natural tints in a very agreeable manner. Vines, such as the American and English Ivies, cling with friendly tenacity to the surface of brick, while nothing can be more charming than the contrast of the soft tints of red with the delicate greens and browns of the foliage. No house in the country should be without its mantle of creepers, which, in spite of all that has been said to the contrary, protects what it hides from decay; and yet, nothing is more discouraging than the attempt to make these creepers cling to painted brick and its wood. Lastly, it is not only better, on the score of beauty, to leave the bricks in their natural state, but it is also more economical. The cost of a new coat of paint every two or three years, particularly on a house so large as the one we have been examining, is an item seriously to be considered. It is not necessary that the bricks used should be of the very best quality; still less need they be pressed. Only let them be well laid, with the joints well pointed, and well clothed with vines. Time, the beautifier, will do the rest.

The roofs are to be covered with Vermont slate. The cost of the whole, including furnace, grates, &c., will not exceed \$10,000.

DECREPIDITUDE OF THE PEAR-TREE.

BY J. DE JONGE, BRUSSELS.

EVERY individual being, whether of an animal or vegetable nature, has its average period of existence, during which it passes through all its stages, falls into decay, and, arrived at its limit, disappears from the face of the earth. As many years as a seedling Pear-tree requires to arrive at its full growth, so many years it takes to decay and die off. The age depends on the particular race, its degree of acclimation, the conditions, more or less favorable, under which the tree has been planted, and the care with which it has been subsequently managed.

Of all fruit-trees, the Pear, when sprung from a good race, attains the greatest age. This age varies from one hundred or one hundred and fifty up to three hundred years, or more. It is easy to ascertain its age by examining, when the tree has been sawed over by the ground, the annual layers, which show the progress of its growth, its stoppage, and decline. These layers, very large near the centre, become smaller and smaller towards the circumference, where they are almost imperceptible. It is in accidental situations that trees attaining the greatest age are found; but the soil must be rich, deep, and free from stagnant water. From these observations, the truth of which may be corroborated by every careful observer, it will be understood how necessary it is, in our cold and variable climates, when it is intended that the trees should attain a great age, only to plant stocks raised from seeds of hardy and vigorous sorts. In raising from seed, there are always some seedlings which have no similarity to their parents. For this reason, it is necessary to make a careful selection in the second year of their growth. All the seedlings having a smooth bark, of an olive-green color, spotted with gray, and a stem that naturally grows straight and upright, may be considered to possess the characteristics indicative of firmness of growth and long duration.

The seedlings from the Wild Pear of the woods have been patronized; some authors have recommended the *Sucrée Verte* Pear, which succeeds better in a strong soil than those of the *Poire d'Amande* and *Napoleon*. In several experiments made within the last ten years, we have obtained fine stocks from these three varieties, but have found that the most substantial have been derived from the *Sucrée Verte*. Nevertheless, we have observed that vigorous varieties from recent regenerations gave a better result. The stocks which were selected and planted, were budded in the summer of the fourth year of their growth, not at six inches above the ground, but at three feet or more, for the following reason: Trees worked too near the ground are liable to sun-stroke, as formerly stated, whilst those budded at the height of three feet are not. Those young trees raised for orchard culture, do not undergo any cut or wound which cannot heal the same season. Their shoots are shortened back at the proper period, in order to form a fine pyramid, either with a half stem or tall stem; and, when older, the trees are subjected to a moderate thinning of the branches. Thus treated, they afford the prospect of good crops for many years. It will be understood, that the nearer we conform in practice to the rules of a rational system of cultivation, the farther we put off the period of weakness and decay, and the more we deviate from such system the sooner does that period arrive. Crops too heavy for the richness of the soil, too severe pruning, and inconsiderate lopping or thinning of the branches, and inattention to the destruction of insects, are so many causes which hasten the period of individual decay in the Pear-tree. The time, however, will come when attention to all these points is useless, when the tree loses its vigor, and only produces poor and flavorless fruit, containing no seeds. The terminal shoots are short, slender, their bark cracks, and they no longer perfect their wood, losing their leaves, and becoming dried up.

When a tree presents these characteristics of old age, it ought to be destroyed, for it uselessly occupies room, has an unsightly appearance, and can only deposit diseased excretions by its roots, which it ought not to be allowed to do. No other tree ought to be planted in the same place till many years have elapsed, unless, indeed, the soil occupied by the decayed tree be removed.—*Gardeners' Chronicle*.

PEARS ON THE QUINCE.

AT the last meeting of the London Pomological Society, Mr. Rivers, of Sawbridgeworth, exhibited three pyramidal Pear-trees, and with them the following memoranda. He said: "The trees (*Louise Bonne* of *Jersey*) are from seven to eight years old. No. 1, a tree budded on the Quince, has struck root from the collar of the graft; as soon as this took place, about three or four years ago, all the Quince roots died, for, as will be seen, the stump is quite bare. These (Pear) roots penetrated into the solid, calcareous clay to the depth of nearly five feet, and so hard was the clay that the spade could not penetrate it so as to take them out to their full length. As soon as these roots struck into the clay the tree ceased to bear, and its shoots became full of canker spots, the leaves more green than those on the Quince roots, and the young shoots more vigorous, although they cankered and died back. Out of a plantation of two thousand pyramids of this variety on the Quince, only the tree now sent and another have struck root from the collar of the graft, and both are in the same state. Last year, every tree except these two was covered with the very finest fruit; the tree sent did not bear one—the other produced two or three, which were cracked, spotted, and

worthless. No. 2 is a tree of the same sort, on the Quince stock, which grew within five feet of No. 1; this, in common with the others in the same plantation, has no canker, and has borne fine, clean fruit. The soil is moist, and brings on moss to a small extent. No. 3 is on the Quince, and is a young tree that has been twice removed. Trees of this kind, where soil is not favorable (and I have a part of my nursery the soil of which is very wet and cold), I remove biennially, giving them a compost of sand and rotten manure. In a few years, their roots become like those of rhododendrons, and keep close to the surface, so that the trees keep in good health, and bear profusely. The fibrosity of the roots of the tree sent is remarkable."

These specimens were extremely interesting, showing as they did that the Quince was better suited for certain kinds of soils than the Pear stock; they also showed how necessary it is to keep the roots of our fruit-trees near the surface, and indicated that, under certain circumstances, at least, to deep rooting we owe barrenness and canker.—*Ibid.*



EDITORS TABLE.

CUBA.—A short look at Cuba has made an impression on us never to be effaced. The notes and observations made on the tour having relation to topics little touched upon in books, we shall prepare in time to commence their publication in the June number. Where the novelty of vegetation, and, indeed, of everything else, is so striking, it requires some time to recover from one's surprises, to be enabled to give sketches with any kind of gravity. *A perpetual spring*, to the Northern man, is something to think upon the remainder of one's life.

EXCUSES.—Many matters that demand our attention, are necessarily deferred till next month, when we hope to bring up all arrearages.

THE WEATHER.—Up to the time we write (April 21), the weather, throughout a large district of our country, has continued unusually cold. Snow fell on the 17th, at Louisville, to the depth of four inches. On the first of April, the Pride of China was in full flower at New Orleans, and the forest-trees were in nearly full leaf on the 4th; a cold wind from the north set in, and, on the 5th, there was a heavy frost that injured the corn and perhaps the sugar cane about New Orleans. At Natchez, on the 5th and 6th, the heaviest winter clothing was a necessity; this winter weather accompanied us up to Philadelphia by the land route. On the 12th, the thermometer at Montgomery, Alabama, stood at 44°; on the 14th, in the higher regions of Georgia, it was 42°; on the 16th, at Augusta, fires were necessary in every house, and wood was in great demand; at four o'clock in the morning of the 17th, at Wilmington, N. C., passengers who stepped hastily from the cars, slipped down on a very heavy frost, which covered everything like a mantle of snow. The fruit in this large region of country is materially injured, if not entirely destroyed. Pears, at Atlanta, as large as ripe beans, were entirely frozen, and black. Further north than Washington, fruit was not so forward, and escaped this visitation. We are yet to hear the result to the sugarcane; cotton, in most of the Southern States, was not generally up, and so far escaped. The West and Southwest has suffered, but the disaster, we trust, is not so great as we witnessed in the "sunny South."

On the 19th and 20th a severe northeast storm, accompanied by heavy snow as far south as Pennsylvania, and consequently a depressed thermometer, swept over a large district of country, and placed people in a state of despair; the fruit buds hereaway were somewhat injured, but generally they were not so much advanced as to leave us without hope that many are safe.

BOOKS AND CATALOGUES RECEIVED.—A Practical Treatise on Grasses and Forage Plants. By Charles L. Flint, A. M. New York: Putnam & Co.

Descriptive Catalogue of a choice collection of Fruit and Ornamental Trees, &c. &c. For sale by D. Chauncey Brewer, Hampden Nursery, Springfield, Massachusetts.

M. B. Bateham & Co.'s Catalogue Columbus Nursery, Ohio (Ellwanger & Barry, and M. B.

Bateham, Proprietors), contains an essay on planting and managing trees, with a list of their stock, and additional observations of interest.

New York State Agricultural Society's List of Premiums and Regulations for the Seventeenth Annual Fair, to be held at Buffalo, October 6, 7, 8, 9, 1857. Look out for prizes, which are numerous and liberal.

Mr. E. W. Bull sends us a fine picture of the Concord Grape, with testimonials such as no one who reads them can resist, but must "plant immediately." The words, in large letters, "Inch in Diameter!" "No Mildew, Rot, or Drop Off!" has already induced an order from ourselves for this variety, so much esteemed at the eastward, and already coming northwards into favor.

Extrait du Catalogue des Plantes cultivées chez Pelé, Rue de Lourcine, Paris, 1857.

A List of Plants for sale by John Wilson at the Albany Nursery, N. Y. Very neatly got up, and varied in contents.

Reports of the Committee for 1856 of the Massachusetts Horticultural Society, and Schedule of Prizes for 1857. Boston. To be further reported on.

N. Coe, Esq., of Oregon Territory, will accept our thanks for seeds and flowers from that interesting region. We shall report on their beauty and value in due time.

Arctic Adventure. Edited by Epes Sargent, Boston. Philips, Sampson & Co.

J. M. Thorburn & Co., 15 John St., New York, advertise that they have the true *Imphee* or *Sorgo Seed*, at one dollar a pound, and have placed a pound at our disposal for trial.

Mr. R. Peters, of Atlanta, Georgia, will accept our sincere thanks for valuable packages of seeds, and a superb specimen of the silky dress of his Cashmere herd.

THE NEW YAM.—The following scrap is from the *Cottage Gardener*, and signed by a man of multifarious accomplishments:—

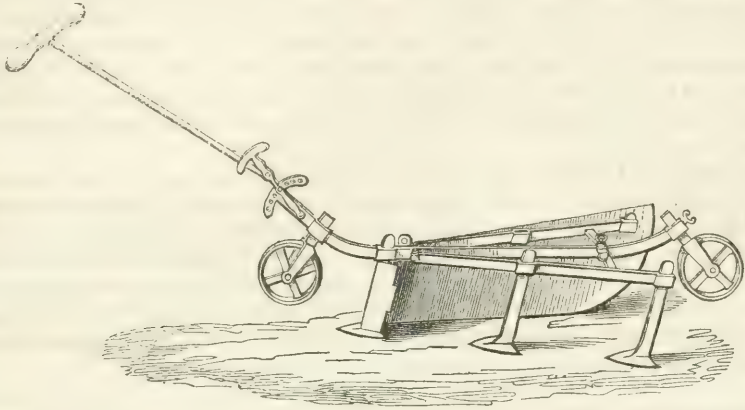
"The most perfect indifference" is shown by the new Yam to "the most rigorous seasons;" it is most perfectly hardy. The evidence is most conclusive to prove that the bigger the "sets" or seed, the larger will the crop dig out. All potting, and all fiddling with it, is a perfect waste of time. Trench the ground as deep as for parsnips, and put in spanking long Yams in the first week in March, and let them alone entirely for the rest of the season.

D. BEATON."

ROSES.—A knowing man writes to the *Gardeners' Chronicle* about Roses: "Let them have an eye to every point that tends to perfection—vigorous habit, constancy, free blooming, and, above all, handsome and abundant foliage, not forgetting high perfume. These are what we must look for, now-a-days, in every new Rose that is brought before the public, and a variety that has not all these qualities more or less in advance of its compeers, has no business to pass muster. Above all, however, let handsome foliage be aimed at; for, as an old cultivator of this lovely flower, I can answer for it that a clean, luxuriant foliage is the very making of a Rose. We amateurs do not want varieties from which a choice bloom can only be plucked now and then. To any beginner in the cultivation of Roses, I would say: "Never rest till you have procured Madame Laffay and William Jesse, and let him add Coupe d'Hebé, Jules Margottin, William Griffiths, Baronne Hallez, Duchess of Sutherland, Blairi No. 2 (Hyb. China), Auguste Mie, Prince Léon, Géant des Batailles, Baronne Prévost, Pius IX., and Mrs. Rivers (the best white)."

A NEW GARDEN IMPLEMENT.—Recently, at Edinburgh, we saw in operation an implement which combines the advantages of the hoe on an extensive scale, a harrow, a grubber, or fork, and a plough, or, rather, a machine for earthing up potatoes, &c.—all this in one, and easily worked by one person. Of its great utility we cannot possibly speak too highly, and

to market gardeners especially, and in those establishments where kitchen gardening is carried on extensively, it will be most valuable. The inventor of this *multum in parvo* instrument is C. K. Sivewright, Esq., of Edinburgh, who had it tested in the presence of a few who are interested in horticultural pursuits. Its cost is about £4 [or twenty dollars.] The implement is so constructed that it can be used with five hoes or cutters, and, by means



of a simple contrivance, it can be extended or reduced to a width of from twelve inches to two feet. By removing the cutters, and inserting iron teeth about eight inches in length, it can be made to answer the purpose of a fork; and by moving these, and placing side knives in the form of a plough, ridges can be thrown up with great ease. We were told that the saving of labor with one of these implements was very great, one man doing easily and most effectively the work of four; indeed, we are quite convinced that it is of great practical utility in the culture of turnips, cabbage, and other green crops.—*London Florist*.

BEEs WINTERED UNDER GROUND.—A communication, relative to the preservation of bees during winter, has just been made at the Royal Central Horticultural Society, by Mr. Saillet, Jr. The principal facts contained in it are as follows:—

“The experience of M. Forstner, Instructor at Havengan, reported by the Society at Munich, seems to prove it possible to preserve bees under ground during winter.

“In a part of his garden, quite sheltered from dampness, M. Forstner dug a deep well of eight feet, four feet long, and three wide. The bottom was filled with pebbles to the depth of a foot. To protect the bees from any water that would trickle through, this first bed was covered with another one, composed of pine leaves, which received in its turn a bed of beaten flax of a foot in thickness.

“The 30th of October, he lowered into this pit two hives, containing two vigorous swarms. At the extremity of each hive, he had adapted several pipes of quill pens, open at each end, intended to allow the air to enter; the one weighed about sixty-three pounds, and the other thirty-two. The spaces between the hives were filled lightly with pea haulm; the whole covered again with about half a foot of pine leaves; at last, the excavation was hermetically closed by an old broken door, which was covered over with a little earth, trampled upon.

“The temperature being warm, the 21st of March, of the year following, Mr. Forstner withdrew his hives, and discovered they had lost nothing in weight. In the smallest, in closing a young swarm, which had as yet constructed only the half of its house, he found

only four dead bees ; he moved into it two handfuls from the other hive, where the swarm was completely established, and which was too contracted for the great number of bees in it.

"The hives were carried back to the places they usually occupied, and were found to be of full weight.

"Then an astonishing difference was proved in the account of the loss among the hives which had passed the winter in the ground, and those preserved in the usual way.

"In short, the hive of sixty-three pounds still weighed fifty-nine pounds ; the second, of thirty-two pounds, had only lost fifteen ounces, while one of the other hives, which, in autumn, had weighed fifty-two pounds, now weighed but thirty-nine, and another, which previously weighed forty-two pounds ten ounces, was now but twenty-eight pounds ten ounces.

"M. Forstner has not been able to discover whether the bees consume less under ground, or if, as is probable, they fall into a sort of torpid sleep, from which they rouse sooner than other insects, on account of the hatching of the young bees. However that may be, the swarms on which this experience rests were full of vigor, indefatigable after sweet riches, and furnished, earlier than is common, very pretty swarms ; their honey was perfect.

"The author of this experience adds, that to preserve field mice and moles from the hives thus kept under ground, it is necessary to take precautionary measures, such as protecting the walls of the pit by an iron trellis."—*Flore de Serres*.

WISTARIA SINENSIS.—The following query and answer, cut from the *London Cottage Gardener*, applies with equal force to this country :—

"*Climbers for Poles*.—Would you have the kindness to inform me, through your 'Answers to Correspondents,' whether a Climbing Rose or Wistaria would do for a bamboo pole ? Perhaps you would guide me as to the most suitable, and as to the time of planting and soil adapted for them ?

T. J. WATSON.

"[The answer to this question depends, first, on what part of this kingdom the bamboo pole is to be set up. Anywhere in England north of London, we would not recommend a pillar Wistaria. Secondly, what is the inquirer's taste ? Which plant does he desire to cultivate ? If this bamboo pole is to be set up in the plains of Devon, or some such-like plain, where a pillar Wistaria would grow and bloom as well as a pillar Rose, which of the two would you prefer ? We would select the Wistaria, and prepare a border for it as we would for a grape-vine, in every particular ; we would travel one thousand miles to find a Wistaria worth planting. It would need to have been growing for the last three years in a pot, and the last season's growth, to be over four feet. Ninety-nine Wistarias out of a hundred, if pinched in pots, are not worth a groat the dozen. It seldom happens that a Wistaria under 5s. 6d. is worth having as a gift. The fact is, people do not yet understand the treatment of this tree. Our pillar Wistaria should be pruned exactly like a pear pyramid.]"

CULTURE OF THE ROSE.—The time approaches for planting Roses ; with some of our readers it is at hand. A word as to their culture is, however, always in season. If the ground is light, it will be necessary to mix good strong loam with it, for they do not grow well in light soil. Loam, therefore, is as essential as dung. They always grow best on strong land ; take care, therefore, to supply strength by mixing loam as well as dung wherever you are going to plant them. Presuming, then, that you are beginning, send to a respectable gardener, and as soon as they are ready to take up they will be forwarded. Supposing they are standards, take a sharp knife, and wherever the ends of the roots have been broken or chopped off, cut

the rough end or bruised part away. Then dig your hole where the ground is prepared, and plant it with the collar of the root just below the surface, for, if deeper, they will not flourish, and will sometimes dwindle and die. Thrust a strong stake down of such a length as shall just reach the head, and to this stake fasten the tree in an upright position. Water, to settle the earth about the root, and tread the earth firm. If there be any very long shoots to the head, shorten them a little, because the wind has great power, and might break them. But pruning should be deferred until the spring, which we will suppose to have arrived. Now, with a sharp knife, cut off all weakly shoots close to the base, and shorten all the ripe wood to two or three eyes, taking care that the top eye left shall point outwards or downwards. When the shoots push, rub off any that grow inwards. The tree will bloom freely unless attacked by the maggot, which is generated in the very heart of the bud; but when the first buds have been destroyed by the maggot, it is only the first bloom that is lost; the tree will recover. When the autumn comes, you may just shorten some of the longest branches, to lighten the head a little, and, in spring, properly prune them again. Now, you may study the form of the tree in your pruning, bearing in mind that all the shoots which grow inwards where you have omitted to rub them off must be cut clean away, except where you leave them longer for the sake of forming the head. The head ought to be formed by several branches growing outwards, equally divided as it were, and if two are close together, let one be removed. In pruning, therefore, some regard should be had to an equal growth all round. As it is desirable to get the head of the tree as good in form as possible, as soon as we can, we have to bear in mind, when we prune, that a top eye is sure to grow strong; the second may grow, and sometimes the third will start. This ought to give us a good idea of what the tree will be at the end of the season, and may induce us to cut in more or less, as will best assist the form of the head. It ought, however, never to be forgotten that weakly shoots are useless and mischievous, and so, also, is every branch that grows inwards, and helps to fill up the interior of the head. The stocks of tree Roses will every now and then send out branches, which not only deprive the heads of great nourishment, but they are also in the way. They should therefore be removed at once—the instant they are discovered; whether they come from the root or the stem, they must not be allowed to grow.

Roses on their own roots want the same kind of soil, mixed with peat or sand to lighten it, as their fibres and roots are not so robust as those of the brier, and especially some of the more delicate varieties. If the small sorts are intended for a bed, it is worth while to make up the soil on purpose all over the bed. If they are isolated plants, straggling about here and there, a circle of one or two feet may be enough for each plant, but this is supposing the soil too light. If, however, it is good, strong, kitchen garden soil, or like it, a little dung forked into the ground will do all that is wanted. If intended to climb on a wall, or front of a house, or on poles or arches, we must calculate on their growing for years, and therefore provide more fitting soil to ramble in; at the same time, we may bear in mind that good, strong loam naturally forming the ground can hardly be improved for Roses that are to stand for years. Fruit-trees do well on natural loam, and so will everything else, and, when we are making a plantation of Roses, we may look at the productions around us, and if the trees, shrubs, and flowers, are growing strong and well, we need trouble our heads very little about a change. Some persons plant all the dwarf fancy kinds of Roses in good soil, about a foot apart, and then cover the surface with large flint stones, building, as we may call it, close up to the stems. The appearance of these Roses, blooming over the flat stones, is very curious, but no one can dispute that they are pretty. They keep on flowering till the frost settles their affairs for the season, and the roots are so protected by the stones that they survive even a hard winter. They are cut down to the surface of the stones, and, in the spring, they come out stronger than in the previous year, and spread all

over the flints. But this mode is only adapted for the small dwarf-growing sorts, of the nature of the Crimson China, of which, however, there are now several varieties.

Climbing Roses will often remain without a fair start the first season; if so, cut them down tolerably close before they begin to grow in the spring. There will be no mistake the second season; they will throw up from the ground very strong shoots, and you have only to direct and fasten them where they are to remain. The weak shoots that come up or out of the wood, being useless, should be taken away. The side branches of the long shoots should be spurred in to one or two eyes, and, when the space intended to be covered is once complete, you have only to cut in the summer's growth to the last two or three eyes. If you have any reason to suppose that the roots have at all exhausted the soil, the most easy way of supplying the deficiency is to make a bank round the root, and apply liquid manure, a spadeful of rotten dung stirred into five gallons of water, two or three days, and then water with the clear liquor till it has all soaked to the roots.

Roses for show must be fastened, to prevent their being frayed by their own leaves, and shaded from the broiling sun, for you will scarcely find a perfect bloom in a hundred when left to the mercies of wind, dust, and midday rays. A Rose bloom must not be touched by a leaf, for the slightest rub bruises and spoils it. Let the bloom be tied, to prevent it moving to and fro, and the leaves and branches that could be blown against it must be tied back. An oiled paper-cap over it, like an umbrella, will keep off the sun and rain.—*Midland Florist.*

ANSWERS TO CORRESPONDENTS.—(P. T., Canada West.) The most complete work on the melon is that of M. Jacquin, Paris, but now difficult to procure. His list contains eighty-eight varieties, with as many colored figures, each one being accompanied by a representation of a slice of the fruit, to indicate the color and thickness of the flesh and rind; an example is also given of the branch of an individual variety of each class, displaying the foliage, blossoms, and manner of growth. The work is founded on practical experience. The manner of pruning recommended is this: When the plant has four leaves, exclusive of the cotyledons, it is cut down to two; the branches proceeding from their axils, having just unfolded the third leaf, are again cut down to two; and if these fail to show fruit blossoms, the same is repeated, when they will invariably do so. The object is to insure the emission of fruit blossoms, which, in the melon, usually occurs on the second ramification from the parent stem, but always on the third.

(W. W. T.) Wait in patience; Rome was not built in even a week.

(ROSA S.) Be sure, when you plant your rose bushes, that the soil is well drained; you may do this in several simple ways. For instance: Dig the holes twice as deep as you have heretofore thought needful, and place in them stones or broken flower-pots; indeed, the latter, if whole, will form an effectual drainage, receiving water instead of soil, and holding it till it disappears. Place them upside down.

(B. W. R.) Of the *Davaua*, there are four species in cultivation in Europe, and perhaps in America, all handsome evergreen bushes, with bright, shining foliage; the leaves are small, oblong, and toothed, with numerous small flowers of a greenish yellow, and small, dry berries. The foliage emits, when bruised, a strong but not unpleasant odor of turpentine. A pretty phenomenon, which will interest children as well as grown persons, is exhibited by the leaves of *Davaua ovata* and some other plants; the leaves, or parts of leaves, "after lying a short time upon water, will be found to start and jump as if they were alive, while at the instant of each start a jet of oily matter is discharged into the water. This circumstance appears to be owing to some peculiar irritability of the parenchyma of the leaves, which, when acted upon by water, causes the turpentine sacs that abound in them

to empty themselves with violence, and the movement of the leaves may be ascribed to the recoil produced by the discharge. Thus we have, in every leaf, a sort of vegetable battery, which will keep up its fire until the stock of ammunition is expended."—*Botanical Register*. The movements of the leaves upon the water have been compared to a fleet of ships employed in manœuvring, or to persons engaged in dancing.—*See Loudon's Gardeners' Magazine*, vol. ix. p. 377. The *Schinus molle* presents the same curious phenomena.

Gossip.—Cowper writes thus to his friend Newton: "I delight in baubles, and know them to be such; for, viewed without a reference to their Author, what is the earth? what are the planets? what is the sun itself but a bauble! Better for a man never to have seen them, or to see them with the eyes of a brute (stupid, and unconscious of what he beholds), than not be able to say: 'The Maker of all these wonders is my friend.' The eyes of many have never been opened to see that they are trifles; mine have been, and will be till they are closed forever. They think a fine estate, a large conservatory, hothouse, rich as a West Indian garden, things of consequence; visit them with pleasure, and muse upon them with ten times more. I am pleased with a frame of four lights, doubtful whether the few pines it contains will ever be worth a farthing; amuse myself with a greenhouse which Lord Butler's gardener could take upon his back, and walk away with it; and, when I have paid the accustomed visit, and watered it, and given it air, I say to myself: 'This is not mine; 'tis a plaything, lent me for the present. I must leave it soon.'"—The extent of the credulity of mankind scarcely needs illustrations; the changes of opinion are, however, truly curious. Till very lately, real mummy was sold, in the Philadelphia drug stores, as a curative remedy. Powder of silkworms was formerly given for vertigo; mellipedes, for the jaundice; fly-water, for earache; five gnats were considered a dose of excellent physic; lady-birds, for colic and measles; ants were incomparable for leprosy and deafness. A learned Italian professor assures us that a finger once imbued with the juices of a certain beetle, will retain its power of curing toothache for a year. One pundit taught that the efforts of the silkworm to spin its cocoon, was the result of colic.—The instincts of insects in constructing their habitations, defy our penetration; there is one species which excavates a gallery upwards of two feet in length, and half an inch broad. It is furnished at the orifice with a curiously constructed door, actually turning on a hinge of silk, and, as if acquainted with the laws of gravity, she invariably fixes the hinge at the highest side of the opening, so that the door, when pushed up, shuts again by its own weight.—The minority report of the Regents of the Smithsonian Institute, in 1854, signed by Hon. James Meacham, contains some home truths. Alluding to the publications of the Institute, it says: "They are Smithsonian contributions just in the sense that the publications of Appletons, Putnam, and Lippincott, may be called Appletonian contributions to knowledge, Putnamian, or Lippincottian contributions to knowledge. The only difference is the degree of credit obtained for the work!"—In Syria, apricots are dried in great quantities, says a late traveller, and exported to Egypt under the name of Mishmush, where they constitute a most palatable and convenient article of a traveller's *commissariat*, as, when stewed, they make an excellent dish, soon got ready; the fruit keeps perfectly well in this dry climate, and sufficient for a month's consumption, or longer, can be stowed in a very small compass. Mishmush was a principal article in our cuisine during our voyage up the Nile, and, from its portability, it is excellently adapted for desert travelling. *Zummer è deen* (the moon of the faithful) is the same fruit differently prepared, and is equally known as mishmush, but is very inferior in quality to the former kind. It consists of the pulp of the apricot rolled out (after drying, I should suppose) into thin sheets two or three feet long, and a foot or two in width; and, from its dark color, and the edges of the sheet being left untrimmed (as in the case of the peach leather of America), it resembles nothing so much as a blacksmith's old

leather apron; when dressed, however, it is no despicable dish, and, in the upper country, is the kind of mishmash most usually seen in the markets; we could seldom procure the entire fruit, and when we could it was rarely of the best description.—Patchouly, the favorite perfume, is obtained from an otto contained in the leaves and stem of an herb which grows extensively in India, and resembling our garden sage. Its odor is the most powerful of any derived from the botanic kingdom. In its pure state, it has a kind of mossy or musty odor, analogous to lycopodium. Chinese or India ink is scented by some admixture of patchouly.—Shagreen, much used, formerly, for spectacle and other cases, is made in Astracan. The material is the strong skin that covers the crupper of the horse. In its preparation, the roughness is produced by treading into the skin hard, round seeds, which are shaken out when the skin has been dried; it is then stained green with copper filings and sal ammoniac, and the grains or warts are then rubbed down to a level with the rest of the surface, which thus presents the appearance, that used so much to puzzle us, of white dots on a green ground.—What is a billion of billions? The number is a quadrillion, and to count it at the rate of 200 in a minute, would require all the inhabitants of the globe, supposing them to be a thousand millions, to count incessantly for 19,025,875 years, or more than 3,000 times the period during which the human race has been supposed to have been in existence.—The hop pillow was formerly a popular application to produce sleep, one of the most active ingredients of the hop being its narcotic essential oil, which gives the flower a peculiar smell. It was a great favorite with George the Third, in his sleepless fits.—The line run between the United States and Canada, in accordance with the Ashburton Treaty, it is not generally known, cost the labor of three hundred men for eighteen months. For three hundred miles, a path was cut through the forest, thirty feet wide, and cleared of all trees. At the end of every mile is a cast iron pillar, painted white, square, and four feet out of the ground, and bearing, in raised letters, on its sides the date and the names of the commissioners who ran the line.—Arago has left us this important dictation: "Whatever may be the progress of the sciences, never will observers who are trustworthy and careful of their reputation, *venture to foretell the state of the weather.*" It is best, therefore, when asked if you are weatherwise, to say: "No; otherwise!"—A tunnel through the earth from England to New Zealand, would be nearly eight thousand miles long.—There is just now a perfect fury among collectors for majolica ware; it was made in Italy, though originally in Majorca, and the best belongs to the fifteenth and sixteenth centuries. Raphael is supposed to have painted some of it, and his pupils more. A Mr. Bernal set the fashion of collecting it; his collection contained about four hundred pieces, which cost him less than \$5,000, but realized, at his late sale, \$35,000.—The great Pyramid of Gizeh, it has been calculated, could not now be built for less than a hundred and fifty millions of dollars.—"The acquisition of the *language of botany*, the technical terms employed, is generally considered," says Dr. Darlington, "a formidable affair." He does not recommend learning a parcel of uncouth terms, without comprehending the objects to which they are applied, but rather to look at the objects, and examine their structure: their organs must have a name, and these, once acquired, are no more burdensome, but an acquisition. It might be dull work to take up a Directory, and commit to memory the names of the inhabitants of a city, but if we go among them, and form some interesting acquaintances, we find no difficulty in learning the *names of our friends*. Thus, we ought never to waste our time in learning mere names *apart from objects*; the study of *names* and *things* should always go together. As soon as we *know* a plant or tree, we feel a little affection for it; to a new acquaintance, there is the formality to be undergone of an introduction; in botany, thus, we are continually acquiring *new friends*.—The evident mode of getting rid of annual weeds in gardens and farms, is not to let them ripen their seeds; this is done by keeping the ground stirred or ploughed for a year or two, as well to prevent a new crop as to promote the vege-

tation of all the old ones in the soil. This applies to annuals, but, in the case of plants that spread by roots, the extirpation by hand or instrument is the only mode.—Shakespeare, in his *Winter's Tale*, thus alludes to the violet:—

“Violets, dim,
But sweeter than the lids of Juno's eyes,
Or Cytherea's breath.”

FLOWER SEEDS.—We have, from Mr. Dreer, of Chestnut Street, Philadelphia, samples of his flower seeds, put up to go by mail, which is a great convenience to distant gardeners, ladies, &c.; they have only to put a dollar in an envelop, direct it, place it in a hole in a post-office window, and, with only three cents' worth of manure (no water), a whole bunch of seeds will come up in a few days, without trouble, and you can water at leisure.

R. K. BLISS & HAVEN, Springfield, Massachusetts, whose advertisements have attracted much attention in our pages, have also sent us samples (innumerable) in this way, for which they will also accept our thanks. An editor of a journal likes to see the handwork of his readers, and often has a fellow-feeling with them which may be without any public expression, and yet none the less forcible and agreeable.

DESCRIPTION OF THE GREENHOUSES AND CONSERVATORIES AT SPRINGBROOK. By THOMAS MEEHAN, of Germantown, late gardener thereat:—

In numerical order from the mansion-house is—

No. 1. *A Greenhouse*, double pitched, and 38 by 20 feet. It includes a seed-room and potting-room, so that the necessary operations of plant growing can be carried on without exposure to the open air. In this house are collected plants from New Holland, Cape of Good Hope, and the more temperate regions of the earth.

No. 2. *Conservatory*—mainly for *Rhododendrons* and *Azuleas*. It is 31 feet 1 inch in length by 24 feet in width.

No. 3. *Stove or Hothouse*—same dimensions as No. 1. It is kept generally at a temperature of 60° or 70°, to accommodate plants from tropical countries.

The above three houses form one complete range, No. 2 being the central, and considerably elevated above the others. Its roof is supported by truss work, in order to avoid the inconvenience and unsightliness of columns. The whole range is heated by hot water from two of Burbidge & Healy's boilers, with Sylvester furnaces, furnished by Morris, Tasker & Morris, of this city, which answer admirably.

No. 4. *Cactus House*.—It is 51 feet in length and 33 feet in width, double pitched. The roof, massive as it is, is supported by a single iron column, and four iron braces, running diagonally. It embraces the largest and choicest collection of those grotesque-looking plants in the country. Some of them are of great age, and many reach almost to the apex of the roof. A single specimen of the celebrated “Visnaga,” or “Tooth-Pick Cactus,” of the globular variety, is over four feet in circumference. These gigantic forms make, as it were, a “body guard” to the apartments of the *Queen of Flowers*, the *Victoria Regia* occupying the adjoining house.

No. 5. *Lily House*—30 feet long and 33 feet wide. In the centre is an octagon-shaped tank, 24 feet in diameter, in which the *Victoria* is grown. This tank is formed in the central portion, about 14 feet square, being built up of brick, 4½ feet high. From the top of this brick centre a ledge of boards proceeds outwards, about five feet all round, handsomely curved at its edges, in order to contain enough water to accommodate the floating leaves. The brickwork is coated with hydraulic cement, and boards are fastened vertically to the sides by copper bolts passing through them and the brickwork, and secured by nuts and screws. To these boards brass hooks are affixed, to support the heating pipes hereafter to be described; and the whole interior of the tank, as thus formed, is lined with sheet lead: about 4,000 lbs. being employed for that purpose. The bottom of the tank is composed of stout hornblende stone, supported on pillars of masonry, to allow the four-inch hot-water pipes employed to heat the soil in the bottom of the tank, to pass up and down in every direction *beneath*. Connected with these four-inch pipes is a range of one-inch leaden ones, which, passing through the sides of the tank, and supported by the brass hooks above alluded

to, heat the water in the inside by the hot water circulating through them. To equalize the heat in the tank, the flow of two of these pipes is led round the tank to the right, and that of the other two to the left. The soil occupies about two feet of the tank's depth, into which the lily is planted, the remainder being filled with water, which is brought into the tank over a planished copper wheel with floats, by propelling which a current is produced that keeps the surface of the water clean and pure. On the right of the Lily House, as we enter it, is a rectangular tank of the entire length of the house, heated to the same temperature as the Lily tank in the centre, by a small pipe led through it from the larger ones beneath. This is kept for the *Nelumbium speciosum*, the famous "Lotus" of the ancients; *Nymphaea cerulea* and *N. rubra*, the red and white water lilies of China, and other aquatics. This tank serves also as a nursery for gold and silver fish, which are reared here in great abundance.

The main plant of the *Victoria* occupies the centre of the tank. Around it are a number of small ones in boxes, intended by the proprietor for gratuitous distribution amongst those disposed to try the cultivation of the plant in other parts of the country. The writer feels a certain degree of sadness in learning that the old plant of the *Victoria*, which had contributed to the enjoyment of thousands, as well as received, in by-gone times, so large a share of his own attention and care, has been discarded for one of its own offspring—a "true American."

A fine collection of exotic ferns, for which the moisture, partial shade, and temperature of the house, are so well adapted, lines one of its sides. One end is covered with air plants, growing on blocks of wood, and the other by that unrivalled creeper, the *Cissus discolor*, the beautiful velvety variegation of the leaves of which will probably never be surpassed. Two varieties of pitcher plants, and an extraordinary specimen of the very scarce and beautiful East Indian plant, *Brownea grandiceps*, are also inhabitants of this department. On the south side of the house, the light is admitted through stained glass of various colors, producing a highly pleasing effect on the foliage of the ferns, and other desirable plants, within its reach. The Lily House being separated from the Cactus House only by a nine-inch wall, the two are heated somewhat in connection with each other. Two boilers are employed. The one specially intended for the former, is in no way connected with the latter, except that the hot water intended for the wheel (to which a stream of cold water is also led) is heated by a circulation passing through a leaden pipe to a reservoir from which both boilers are filled at the extremity of the Cactus House. The boiler of the Cactus House is larger than the other; and besides the pipes which it heats around "its own" house, has a branch diverging on the other side, and, passing round the Lily House, supplies the latter with additional heat in severe weather.

Returning from the Lily House, we pass down on another side of the Cactus House, the rafters of which are clothed with *Bignonia venusta*, adorned with festoons of flowers, *Bignonia picta*, *Passiflora elata*, &c., in luxuriant health.

No. 6. *Orange-House*—38 feet in length and 14 in width. This house, besides containing a collection of trees such as its name implies, and immense specimens of American Aloe, or Century Plant, India Rubber, Camphor Tree, Finger Lemon, Forbidden Fruit, different kinds of teas and other plants merely requiring protection from frost in the winter season, contains also the main reservoir from whence all the houses are supplied with water. It is lined with lead, and contains about 2,000 gallons. The water is forced up by two of Douglas' largest (No. 6) rams, from springs rising on the farm, 1,500 feet distant. One of these supplies the Mansion-House in the summer season, the excess flowing over from a higher reservoir being led into this. Adjoining this house, and running parallel with it, is

No. 7. *The Orchid-House*—38 feet in length and 10 feet in width. This house is heated by hot water, partly with four-inch pipes, and partly on the "tank system," and by the same boiler used for the last house. A brick pit is constructed inside, which, near its top, supports a divided iron tank, open above, and through which water flows when heated, and returns again to the boiler. This is covered over by tarred oak slats, sustaining a bed of gravel upon which plants requiring moist bottom heat are placed. From apertures in the side of the brick pits, steam is made to permeate the house, when, and as desired. There is probably no house on the premises more interesting than this one. A house properly

adapted to the growth of the air plants of the tropics, hanging, apparently from threads, to the branches of trees, or seemingly springing from dried blocks, trunks, and old roots, as described in the narratives of tropical travellers, is one of the sights often heard of, but seldom seen in this country as yet. In this house may generally be seen some of these wonderful productions of Flora in flower—now resembling some bird, now some moth, and at other times butterflies, or other insects. The celebrated *Espiritu santo*, or “Dove Plant” of the Isthmus, seems to grow and flower here as perfectly, if not better, than in its native localities.

No. 8. *Vinery*—31 feet in length by 12 feet in width, on the “lean-to” principle. This house has an ordinary furnace and brick flue, by which grapes may be forwarded a little earlier, when desired, than in those in the “cold vinery.”

No. 9. *Vinery*—same dimensions as the last, and heated in the same manner.

No. 10. *Nectarine-House*—62 feet long and 12 feet wide, on the same principle, and in range with the two last. The nectarines are trained to trellises against the wall, on the highest side, Black Hamburg Grapes principally occupying the rafters in front. There is no artificial heat in this house, it being employed as a cold vinery as well as a Nectarine-House.

No. 11. *Vinery*—called the “White House,” because there are no others than White Grapes, “Muscat of Alexandria,” growing in it. It is 31 feet by 16.

No. 12. *Vinery*—comprising a miscellaneous collection of grapes. Dimensions same as the preceding. Both these houses are heated by hot water from one large boiler, with the circulation capable of being so regulated to any required temperature without interfering with that of the other. The vines on the rafters are taken down during the winter, and boxed up, so that the warmth inside the house has no effect on them, while the process of forcing *Peaches*, *Nectarines*, *Apricots*, *Figs*, *Strawberries*, *Grapes*, &c., in tubs and pots, is being carried on. *Strawberries* are ripened in these houses in February, *Figs* in March, *Grapes* in April, *Apricots*, *Peaches*, &c., in May. Both houses are neatly paved with pressed brick, as most convenient and agreeable, where so many trees cover the floor, and requiring the frequent attendance of the gardener.

No. 13. *Forcing-House*—50 feet by 10. Used for forcing vegetables and propagating certain kinds of plants. It is heated by hot water. It is divided into two compartments, in the warmest of which *Cucumbers* and *Tomatoes* may be had nearly all through the winter season; and, in the other, *Asparagus*, *Cauliflowers*, *Potatoes*, &c., very early. A small tank is placed in the house, which possesses considerable interest as being the birth-place of the renowned *Victoria* in this country. Seedlings of this plant, and other aquatics, are still flourishing in it, the machinery for warming which is perfect, as it is in all the houses thus heated.

No. 14. *Camellia House*—62 feet in length by 15 feet in width. It is filled exclusively with *Camellias*, numbering several hundred specimens, many of which are of large size. This house is heated by hot water.

The waste water from all the houses passes into a basin, in the kitchen garden, where many of the Lily tribe are growing, including the “Lotus,” which stood there without protection one winter, and flowered the succeeding summer and fall profusely. It also abounds in gold and silver fish. In addition to the enumerated structures, others belonging to the horticultural grounds are worthy of note, as the Tool House, where the implements are arranged with the regularity of an armory, the Carpenter's Shop, the Compost House, Mushroom House, &c.

The premises may be viewed at any time after the 1st of May, between the hours of 10 and 12, and 3 and 5, upon an order of the Auctioneers, M. Thomas & Sons, Philadelphia, to whom, for further particulars, inquiries must be addressed.

DEAR HORTICULTURIST: If I might be permitted to intrude for a moment among the young people who partake of the savory scraps at the “Editor's Table,” I would remind those of them who have a taste for the beautiful in nature, that the season is at hand when her vegetable beauties are most profusely displayed; and would say to all who desire to have a national acquaintance with those charming objects, that a work has been recently prepared by Professor A. Gray, of Harvard University, entitled *First Lessons in Botany*, which is most admirably adapted to the wants of beginners in the “amiable science.” In my opinion, i

more thoroughly and successfully blends the *useful with the agreeable* than any other elementary treatise extant. Were *Horace* now living, and duly posted on the subject, I am sure he would say of it: "*Omne tulit punctum.*"

The illustrations are as ample, and so complete, so strictly scientific, yet so plain and familiar, that the way-faring boy, though a booby, cannot fail to comprehend them. I would therefore advise all the youthful listeners around your editorial table who would provide a store of pleasant knowledge for future enjoyment, to avail themselves forthwith of the aid thus furnished by an accomplished teacher.

Yours, truly,

SENEX.

April, 1857.

COBOURG, C. W., Feb. 18, 1857.

MR. EDITOR: You say the Cloth of Gold is the finest Climbing Rose! If it is anything like the old Cloth of Gold, we would like to know where it is to be had, and how it is propagated? By layers? by cuttings? or by budding?

B. LOSER.

Ans. By all.

SIR: A correspondent in the February number wishes to know a remedy to prevent mice from girdling trees. The best thing I ever found, is to put white birch bark, in June or July, from trees four or five inches through; it will curl up very readily, and may be placed around the tree in the fall, and earthed up a little. It may also be laid in the spring, for another season, it being very durable. This will prevent the mice from working under. Earthing up twelve or fifteen inches is a very good plan in the fall, and remove it in the spring. Mice often come out from the rubbish about the fences, such as brush or stone heaps, or from woodlands. Grass should be grazed off about the fences in the fall; it is a great harbor for mice.

Yours,

B. LOSER, Nurseryman.

Cobourg, C. W.

THE REASON WHY.—Various and valuable matter loads our tables, which has accumulated during several weeks' absence in the tropics, and which will receive attention immediately. Those who do not hear from us before this number reaches them, will please to think of us all but literally buried up in books, catalogues, seeds, advertisements, portraits of fruits and flowers, boxes of apples, bananas, oranges, tropical seeds, herbariums, shells, and coral rocks, &c., and then make whatever excuses for omissions on our part they can conjure up. A person who was fired at as a target from the Moro Castle, must be considered privileged to take time to collect his thoughts.

By a reference to our advertising columns, it will be seen that it is the intention of Mr. Caleb Cope to offer at public sale his superb collections of plants, besides the entire estate. Philadelphians are too well acquainted with the latter—its natural beauties, salubrity, and elegant improvements—to render it necessary for us to direct their attention to the announcement; but it will aid our distant friends to observe that such an opportunity to add the richest floral gems to their collections has certainly never been offered before, and one which we are sure they will not be slow to avail themselves of. The collection of Cactuses alone, has but few rivals in the world, and probably such another, embracing such fine and rare specimens, could not be got together again without years of labor, and great expense. We cannot close this notice without referring to a magnificent specimen of the *Brownea grandiceps*, which the collection contains; perhaps second only to the renowned *Amherstia nobilis* in rarity, grandeur, and beauty. Fortunate, indeed, will be the lucky man who secures it.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, on Tuesday evening, March 17, 1857. E. W. Keyser, Vice-President, in the chair. The following premiums were awarded:—

By the Committee on Plants and Flowers. *Azalea*—specimen—for the best to Cornelius O'Brien, gr. to Gen. Patterson. *Collection of six Plants*—for the best to the same. *New Plants*—shown for the first time—a premium of three dollars to John Sherwood, for *Daphne cneorum maxima*, *D. thymifolia grandiflora*, *D. vesiculensis*, and *Azalea ramentacea* (from China); two dollars to R. Buist, for *Ixora floribunda* and *Azalea Bride*. *Design for the Table*—for the best to J. J. Habermehl, gr. to John Lambert. *Basket*—for the best to the same; for the second best to Thos. Meghran, gr. to Mrs. J. P. Wetherill. *Bouquets*—for the best pair to H. A. Dreer; for the second best to J. J. Habermehl. *Special Premium*—five dollars to Peter Raabe, for a beautiful pyramid of Hyacinths, and a collection in pots.

By the Committee on Fruits. *Pears*—for the best (the Easter Buerré) to John Chambers. *Apples*—for the best (the Chesterfield Pippin) to the same; for the second best to John Perkins. *Special Premium* of three dollars to John Chambers, for a beautiful display of Apples.

By the Committee on Vegetables. *Lettuce*—for the best six heads to James Jones, gr. at Girard College. For the best display by a market gardener, to Thos. Meghran, gr. to Mrs. J. P. Wetherill.

Gifts.—A copy of a biographical memoir of the late François André Michaux, by Elias Durand. Proceedings of the Sixth Session of the American Pomological Society. *Grafts* of the *Lycurgus Pear*, from F. R. Elliott.

OBJECTS SHOWN.—*Plant* from Gen. Patterson's specimens—*Azalea splendens*. *Collection of six*—*Mahernia odorata*, *Azalea coccinea*, *A. speciosissima*, *Richardia Æthiopica*, *Acacia grandiflora*, and *Forsythia viridissima*.

By John Sherwood. *New Plants*—*Azalea ramentacea*, *Daphne cneorum maximum*, *D. thymifolia grandifolia*, and *D. vesiculensis*.

By Robert Buist. *New*—*Ixora floribunda* and *Azalea Bride*.

By Peter Raabe. A large vase of Hyacinths; also pots of same.

By Theodore Walter. Very fine cut Tulips.

Designs, &c.—By J. J. Habermehl, gr. to John Lambert. A table design, a basket, and hand bouquets.

By Thos. Meghran. A basket.

By H. A. Dreer. A pair of bouquets.

Fruit.—By John Chambers, Mt. Holly. *Pears*—four kinds. *Apples*—about thirty varieties.

By John Perkins. A dozen each of Monmouth Pippin, Ridge Pippin, and Chester's Spitzenburg.

Vegetables.—A large display by A. L. Felton.

From Mrs. J. P. Wetherill. A handsome display.

From gardener at Girard College. Six heads of lettuce.

Calendar of Operations.

MAY.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

EARLY in this month, the ground in the vineyard may be cultivated—if it was omitted in April. If the plough is used, be careful not to break off the young shoots, now starting rapidly. About the middle of the month, rub off superfluous shoots and suckers, leaving the strongest on the spur and the bow, to bear the fruit crop, and for bearing wood for next year.

In this climate, the grape-vine is in blossom toward the latter end of the month. Just before blooming, pinch off the ends of the young shoots two or three joints beyond the last blossom bud, except on two of the strongest branches, which are to be trained to the top of the stakes for bearing wood the year following. Tie up the young vines carefully to the stakes with rye straw (made damp, to be pliable), or any other cheap tie, as they are liable to be broken off by high winds. In training to trellises, the same treatment is necessary,

and the shoots should be spread out judiciously on the trellis, to receive their due proportion of light and air.

Keep a sharp look-out for *insects*, and destroy such as are depredating. The lady-bug is not of that class, but a small green worm will often be found eating the blossom bud just as it expands from the leaves. These must be watched closely, and destroyed.

Give the young vines and cuttings in the nursery (if you have one) a light hoeing, to keep down weeds, and promote the growth of the vine.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN—Seeds of the various cabbages for winter use should be sown, such as Savoys, Brussels sprouts, Cape Brocoli, flat Dutch cabbage, &c. Sweet corn, Lima beans, watermelons, sweet potatoes, and cantaloupes, may also be attended to as early as the weather and soil will permit. A successful method of combating the *striped bug*, so injurious to the melon and cucumber tribes, consists in covering the hills with loose squares of glass. Four small wooden pegs are inserted in the ground, so as to inclose the *hill* of plants; a square of glass sufficiently large to cover them, is then laid on the pegs. This has been found as effectual in *scaring* the insects as the common contrivance of a small wooden box, without its defects. The plants are exposed on all sides to air and light, and the glass cover further prevents the soil being consolidated by heavy showers.

Young plants should not be allowed to crowd each other in the seed bed. Thin them out, so as to give space for each to be exposed to light and air. It is better to transplant in a sheltered border for two or three weeks, to produce a mass of fibrous roots, and if then carefully lifted and set out, will immediately start into vigorous growth. Before planting, make a furrow, with a hoe, three or four inches deep, and plant in it. The raised sides of the furrow will protect the plants for a time, and the first hoeing will level the soil over their roots.

FRUIT-TREES.—In former remarks on winter pruning, it has been suggested to prune very sparingly all those of luxuriant and thrifty growth; such will now require attention in picking out the points of all shoots that exhibit a tendency to luxuriance. This pinching process appears to be looked upon by many as a *fancy* species of cultivation only applied to dwarf pear-trees. So far from being so, it is, practically, the most important subject to which the attention of fruit growers can be directed. By its means, they can induce fruitfulness in young trees, and keep them uniformly productive. It is economical, inasmuch as it is easier to rub off a bud than to saw off a branch, and, when thoroughly understood and acted upon, branches are permitted to grow only when and where they are wanted. Fruit-trees, when healthy, and growing in good soil, have a tendency to make strong, yearly shoots at the extremity of the branches, the lower buds on the tree remaining dormant, or producing only weak shoots. *Pinching* consists, practically, in checking, at an early stage of growth, these robust shoots, by breaking out their points; this retards their longitudinal extension, and causes a development of latent buds, producing short, lateral growths, which are the future fruiting points. Our most successful fruit growers are becoming convinced that this is the only method of securing full benefit from good cultivation; otherwise, manuring only increases wood growth, to be lopped off at the winter pruning.

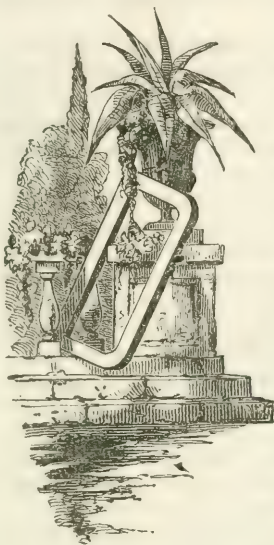
When the size of a tree is the only object in view, summer pruning should not be practised.

GRAPES UNDER GLASS—I would again repeat the advice given in former calendars: "Towards the end of the month, leave the top sashes open a little during the night, allowing the temperature to fluctuate similar to the external atmosphere. There is no climate in the world where the temperature is constantly the same." It almost seems unnecessary to state that when frosts occur, the house should be closed.

GREENHOUSE.—Plants may be set out in the air when their growth is completed—of such kinds as azaleas, camellias, &c.; and young plants of many kinds will grow better, with less care, by turning them out of pots, and planting in the flower beds. Summer flowering plants should receive attention; always water in the mornings, and keep the atmosphere moist by evaporation of water thrown on the floor and walls; a slight syringing occasionally during the day, will assist much in this respect.

PLANTING.—The early portion of the month will be found a good season for removing evergreens north of this. There is too little attention paid to preserving the roots during removal. To see the roots of trees exposed for hours to a hot sun and drying winds, is a painful sight. Trees so treated ought to die. I lately visited a pleasure plantation, and observing that all the trees were remarkably straight-stemmed, was told that all crooked trees will straighten themselves by simply running down a slit in the bark, with a knife, on the side towards which the tree is desired to come.

A Trip to Cuba and the Southern States, No. 1.



ECIDELY it is a pleasant thing to leave the wintry North, and speed away to the land of the orange and the myrtle. Man has just made himself wings, and, like the birds, he can change his climate at pleasure. In a week he may run through enough parallels of latitude to leave behind him the wintry snow, and enter upon a perpetual summer; he walks from his conservatory, where a few plants are barely kept in health by fires and steam, and before he has taken half a dozen good naps, he wakes up in a region where the skies are the only glass, and where a greenhouse has never been thought of; from frozen grounds, untillable till May, he flies to a land where the pine-apple ripens as it grows neglected by the roadside, and where fruits hang upon the trees till long after they have put forth their flowers for another crop. The orange is in full bearing, with height and limbs almost comparable to our apple-tree; its delicious golden product tempts the eye till it is attracted to the glorious plume of the neighboring cocoa-nut, or the still more stately Royal Palm, whose height and ostrich-like feathers are a prominent ingredient of every scene. Does arboriculture engage his

mind, the visitor finds innumerable trees, bushes, and vines, loaded with leaves and flowers such as have never been noticed in his vocabulary. This is literally the condition of things

"In that fam'd land, by daring Colon given
To the admiring gaze of pleased mankind.

* * * * *

But insulted freedom yet may rear her throne,
And raise congenial altars there."—W. ELLIOTT.

A short visit to Cuba enabled us to embody a few notes that may be acceptable to our readers, and possibly we may be the means of inducing others to make it a winter residence whose state of health requires an equable climate, for such this eminently is.

Climate, it is true, is not everything, but to many it is of great importance, both to the healthy and the invalid, and it is beginning to be discovered that our Northern winters are as much, if not more to be dreaded than our summers. Hundreds now go to Cuba where thousands will hereafter make the trip when the advantages are more generally known, the facilities more multiplied, and the local government more disposed to receive us than is even now the case. The restraints on the movements of Americans are considerably relaxed of late, and though some ridiculous regulations are still in force, there were none, the past season, which were not easily borne or laughed at. More travellers from the States have resided on or visited the island the past winter than was ever before known, and it may be supposed they have now and then left an impression, and made a mark, which gradually may prove an entering wedge for the Anglo-Saxon race. Indeed, many of our countrymen are settled there, and manage some of the most important interests. They are engineers on the railroads and sugar plantations; they keep the only decent hotels, purchase land here and there, and, if facilities were given, would soon overrun the country with improvements; but the Spanish policy is

one of a high tariff character, and discourages manufactures for the sake of an enormous revenue, of which the Government is cheated by its officials, of at least one-half to two-thirds.

The trip to Cuba is of easy accomplishment. The Quaker City, a very fine steam-vessel, runs with regularity from New York to Havana and Mobile; the Black Warrior, the Cahawba, and the Empire City to the first-named port and New Orleans; though not equal to the "Quaker," as they call her, the three latter are tolerably comfortable, but require overhauling in some of their arrangements.

Our own voyage was made from Philadelphia to Charleston, S. C., in the steamship State of Georgia; this connected with the very clever and clean steamer, Isabel, running only to Key West and Havana, in which every desirable comfort is found. These two ships carried us safely to our destination in seven days, nearly one being lost by detention at Key West, in order that we should not arrive in the night, and be obliged to cast anchor outside the Moro Castle,* according to Spanish usage. After enjoying the novelties of this very novel city of Havana, by examining its peculiarities and institutions, visiting all that was attractive in its neighborhood, and botanizing as much as possible, we went into the interior, visited sugar and coffee estates in considerable numbers, resided some time on one of the latter, took a peep at Matanzas and its beautiful port and neighborhood, and returning to Havana, concluded some further researches, held long conversations with a most intelligent native botanist, who is doing the world a service by his labors, and took our departure, in the Empire City, for New Orleans.

At New Orleans, we enjoyed some advantages, and, visiting Natches under happy auspices, found there (before the middle of April) the climate and the roses of our middle of June. Thence, *via* New Orleans to Mobile (where we found, April 10, all the forest-trees in full leaf), we ascended, on the 11th, 12th, and 13th of April, the Alabama River, whose banks were clothed in full summer garb, all the forest-trees being in leaf, and azaleas and the dogwood in bloom. The weather during this river ascent of four hundred and fifty miles, was cold and very chilly, as it had been at Natches, though the roses were in full beauty. Landing at Montgomery, Alabama, in a northeast rain, *twelve hours of railroad travel* transformed the scene from an entire spring to the perfect desolation of winter. At Atlanta, there was no green leaf, the forest was silent, and the cold became overpowering to a system relaxed by the perpetual summer we had enjoyed in the tropics; this dreariness of nature continued all the way to Philadelphia, enlivened a little only in the lower land of Augusta. Frost every night had already injured the corn and sugar about New Orleans, and had done its work on the fruit of Georgia and other States. It was impossible to keep warm except in tight rooms or rail cars, and, after our return home on the 18th of April, our own neighborhood experienced a snow-storm of great severity; all of which seemed to afford an argument for Cuban winters, where we had left, a few days before, the fruits and flowers under the influence of the thermometer steadily pointing, in the morning at 76°, and at noon, at 81°; where, in short, reigns perpetual summer; and the porter of the hotel, whom we found shelling peas in early March, as he does all the year, was engaged in the same pleasing occupation when we left. Peas were plentiful at New Orleans, and strawberries could be had for a consideration, but they possessed less flavor than our own. All agreed, wherever the old topic of the weather was talked over daily, that it was an unusually cold spring,

* The visitor to Cuba should be informed that the land side of the Moro Castle, which presents a level surface, is a place of danger. We were here unexpectedly saluted by a cannon ball, fired at a target, while collecting corals, shells, and sponges.

and we concluded we had done as unwisely as most do, by leaving Cuba too early.

On the 3d of March, at Charleston, vegetation was much more forward than in the higher regions of Georgia on the 10th of April. Peach-trees were in bloom, and tomatoes of considerable height, but a cold night or two had injured the fruit, and the orange-trees looked discouraged. We noticed, at Charleston, many plants and shrubs living in the open air, that, if we could possess, our gardens would equal almost any in the world; among these, the *Gloria-mundi*, or *Laurus cerasus*, and the *Magnolia grandiflora*, were the most striking and useful as ornaments; one of the latter, in a town garden, is forty feet in height. Considerable attention is paid here to gardening, but less than the climate would pay for; grass is not very successful, even with great care, and here we bade adieu to that luxury of the eye in the colder North, for many weeks.

Our party (now a large one) enjoyed the trip down the Florida coast greatly, though the weather continued cold till we reached the latitude of the Bahamas. The following sketch presents characteristic views of the coast, the palmetto here, the highest object, and the everlasting solitude of the beach.



CAPE FLORIDA.

St. Augustine was passed, but not seen. Generally, we were near the coast, which fatigues by its monotony, but this is entirely obliterated by the scenery and vegetation which presents itself at Key West, in novel forms to a Northerner who visits this region for the first time. Most of the productions of Cuba flourish here in perfection. A worn-out mind, accustomed to the wintry winds of Pennsylvania and the North, may here fairly and fully enjoy a new sensation in his first glance at the glorious palm-trees.

As we neared the wharf in early morning, all the travellers were on deck, in full rig for a run on the dry land, but we were not all fully prepared for the scene that rapidly came in view. "What tree is *that*?" exclaimed a dozen tongues at once. "Oh! how beautiful!" "glorious, indeed!" was heard from every quarter, as the ostrich-like plumes of the cocoa-palm waved in graceful beauty in a tropical breeze, and displayed the nuts hanging in their various stages of growth, from the flower to the full-grown fruit. We all made rapid steps to get a near view; they were planted near the wharves, and having but lately come into bearing, presented the appearance of the handsomest shade tree we had ever conceived of. When more

fully grown, the leaves and fruit are so elevated as to present a less pleasing aspect. That first sight of the cocoa-nut palm has left an impression that no subsequent experience at all parallels for intensity. A few minutes more, and we were under the escort of Major Saunders, and in the confidence of his colored man, in search of milk from the nut. Sambo took us to the garden of one of his black friends, with a cottage no doubt much like Paul and Virginia's, and with little negroes running about in nature's garb under the palms. Sambo bought liberty to ascend, and soon detached the ponderous nuts from their stems, the mothers holding their children like dogs in a leash, lest the falling fruit should crack their skulls. We betrayed no ignorance by giving directions, and Sambo soon found an axe, with which he chopped off the upper end of the fruit, and upset it into a pint and a half tumbler, first showing us that it was *entirely full* of the almost transparent liquid. The elevated position in the wind which it had enjoyed, had kept the milk cool, and we demolished the whole, the regular charge appearing to be sixpence; the empty shell, and its network of green covering, was cast away as useless, but an examination displayed a very thin lamina, not thicker than the blade of a knife, of a white, soft substance, which, as the milk dries away, and the nut becomes older, thickens to the consistence we find in its more ripe and desiccated state at home.

The cocoa-nut will not produce its fruit except in the vicinity of the sea; at Kew Gardens there is a large plant, but it is barren for want of salt air. This nut is now in extensive demand for making palm-oil, and it is supposed that a large district of the yet entirely uninhabited Florida coast is well adapted to its growth. As soon as the Indians of that region are got rid of, and the white man is unmolested, the experiment will probably be tried on an extensive scale. The tree bears in its sixth year.

Mr. J. P. Baldwin, the intelligent collector of the port, and an enthusiastic horticulturist, has a large garden near the town, and an active negro gardener (yelept Sandy Cornish), to whose varied information we commend questioners new to such novelties as he hoes and discourses on. He has great success with bananas, the sugar and rose apple, guava, &c., and he declares that he gets three crops of grapes annually from the same vines. But the Sisal hemp is the most profitable crop of the Key, and, with care, will yield \$400 to the acre at a cost of only \$10, if a machine could be invented to clean its fibre from the surrounding aloe-like substance which envelops it. Sandy showed us many novelties, but as these came more fully under our notice in Cuba, we shall defer them to a future page.

The orange attains great perfection at Key West, and the cultivation of this and the cocoa-nut, &c., for exportation, is profitable. The island, though highly attractive for its vegetation, is not a desirable residence; it depends mostly upon the Isabel for its supplies and the mail, and its coral rocks present no features of beauty. We had left the region of snow which continued abundant at home all March, and found the whole population here clothed in summer costume, with Panama hats, at this early date; with slight exceptions, this is the costume of the entire winter. The officers on the station had much to say of the utter uselessness of the war carrying on against the Indians, and admitted that though five thousand troops were in the field, only one of the enemy had yet been captured, and she was a woman!

As the editors of the *Horticulturist* have rarely or never ventured of yore beyond the latitude of Washington, however incompetent to the task we shall endeavor to interest our readers with a few memoranda respecting a climate as new to some of them as it was to us, and, in our next number, shall enter briefly upon Cuban topics.

THE PROPER EXPRESSION OF A RURAL CEMETERY.

BY PROFESSOR EDWARD NORTH, CLINTON, NEW YORK.

ONE of the strongest desires of man is that of expressing himself to his fellows, and asserting his own individuality. The ways in which, by expressing his individuality, one sways the sentiments, and brightens or glooms the happiness of others, are more numerous than we are apt to suppose. The men who write books, make speeches, and occupy pulpits, are not the only men who express themselves to their times and their neighborhoods forcibly and influentially. Every one who mixes with his fellows in the affairs of life is a responsible source of influence. He makes a constant expression of himself by his walk and work, his conversation and example. This he does as really as though he issued a daily newspaper, or preached a weekly sermon. The very dress in which he appears among men may intimate the possession of praiseworthy qualities, or may placard and parade subtlest weaknesses that he would fain conceal even from himself. We also express ourselves tangibly and legibly in our religious and political associations; in our homes, gardens, and farms. The house one owns and occupies, more especially if it be a house in the country, will betray to passers-by something of his personal tastes, habits, and attributes.

These different modes of self-expression, in which written or spoken language is replaced by emphatic symbols, belong peculiarly to the living. Yet our self-expression may continue, with more or less of emphasis, even after we have gone to our last slumber. We are not condemned to die like the brute, making no sign, remembered in no epitaph. It is our privilege to speak from our graves, and with this privilege comes the inquiry, what expression we shall choose for ourselves in our place of burial, in the memorials that tell where our dust reposes, in the surroundings and decorations of the spot. What shall be the lessons taught by the grave-ground we expect to occupy, and which, by a serious forethought that betokens a man's innate longing for a glorified reunion of soul and body, we select, embellish, and consecrate, in anticipation of death? Shall the last earthly self-expression we are allowed to make be one of gloom, negligence, and despair, or of hope, cheerful resignation, and pious embellishment?

I. In the expression we should choose to embody in our places of sepulchre, ideas of permanence, sacredness, and security, must be allowed to be of the first importance. Interments in the heart of a thronged and garish city, or in a spot through which a thoroughfare is likely to be opened, violate one of the finest, deepest instincts of our nature. The inscription on Shakspeare's monument—

"Blest be the man that spares these stones,
And curst be he that moves my bones,"

may not fully sort with our conception of posthumous urbanity, but it enunciates a feeling native to human hearts. Every stone in the colossal pyramids built by the toil of centuries and the wealth of empires for the sepulchres of Egyptian kings, proclaims the soul's desire, not more of immortality than of an undisturbed repose for its mortal tabernacle. We desire that the house of clay, tenanted by us for a few short years, and associated with our spiritual struggles and aspirations, should moulder away in silence and inviolate security. What we desire for ourselves we also desire for our kindred, our neighbors, for all, indeed, who share in our mortality and our hopes of a better life. We sympathize with the heroism of Antigone in the Attic play, although our sympathy descends to her from the van-

tage-ground of a Christian faith, when she declares that she would count it glorious to die in the act of performing burial rites for her outlawed brother, and that she will rescue his body from dishonor in spite of a tyrant's edict and armed opposition. We shudder at the desecration of crowded cemeteries in our large cities when ruthless mammon breaks down moss-covered headstones, invades the sanctity of family vaults, shovels out the relics of whole generations, and lays open streets, or sells building-lots, where the hush of the sepulchre ought to have been perpetual.

It is pleasant to know that in so many of our States the desire for permanent burial places is respected by law. In the State of New York the property of cemetery associations is exempt from all public taxes and assessments. It is not liable to be sold on execution, or for the payment of debts due from individual proprietors. After the title of a plat has been transferred to an individual, and an interment made therein, the plat becomes his inalienable property, descending to his heirs and their heirs forever, or so long as they choose to retain it.

In this age of sudden changes, revolutions, and runnings to and fro, when household altars are set up to-day and deserted to-morrow, when a church is consecrated this year for sacred worship, and next year sold for a theatre or a barn; when even religious principles are pulled up every now and then, "as children pull up the shrubs they have planted, to see if they have taken root," it is pleasant to be permitted to organize cemeteries that carry the elements of permanency.

Nature consents to co-operate with us in doing deathless honor to the dead. In one of his prophetic odes, the poet Horace boasts that he has wrought out for himself by his verse-craft a monument more lasting than brass—

*Quod non imber edax, non Aquilo impotens
Possit diruere, aut innumerabilis
Annorum series, et fuga temporum.*

It were not extravagant, and would savor less of vanity, for those who secure plats in a rural cemetery to indulge in anticipations equally confident, though with a chastening of melancholy, and to foresee in the trees which they there plant a memorial of respect for the dead, an expression of elevated character, and a pledge of their grateful remembrance in the remote future, which the driving storm shall rather feed than waste, which the fierce winter's rocking winds shall nurse into more stalwart grandeur, which shall gain something of beauty and venerable strength from each revolving year. *Non omnes moriemur.* Even in our bodies we shall not utterly perish, so long as

"The oak
Shall send abroad his roots and pierce our mould,"

so long as

"The yew-tree graspeth at the stones
That name the underlying dead."

II. It is also befitting that a permanent and ornate cemetery should aim at fulness and accuracy in its historical expression. Every burial-place is a repository of unorganized history. An Indian grave-mound that carries neither epitaph, name, or date, will furnish crude materials for the historian's use. Unearth the martial and domestic implements buried with the Indian warrior, and they will give glimpses of information, more or less reliable, about his habits, wealth, social standing, and the superstitions of his tribe. From the sepulchral monuments of the ancients we infer many ideas, not elsewhere preserved, respecting their domestic usages, civil institutions, and their progress in æsthetic arts. A large share of what we know about the Pharaohs is embalmed with them in the dark cerements

of the tomb. The gravestones of a civilized people perpetuate multitudes of special facts in the history of families and individuals, which we are prone to undervalue, partly because familiarity brings indifference, partly because we cannot anticipate the coming events that may cause these facts to be eagerly sought after and organized into history. There is an immense fund of crude material for biography spread out over the uncounted and too often uncared-for gravestones of the generations gone before us. The merriment sometimes indulged in over the inscriptions in our early burial-places is a mark neither of reverence or of wisdom. We may smile, if we will, at bad latinity and worse anglicisms, at wretched puns and halt verses, false rhymes and mis-spellings; but, beyond such verbal faults, there is a fulness of detail in these old quaint epitaphs that gives them a high historical value, to be enhanced with each succeeding year. As autographs of national character and unintended records of primitive society, they hold up a mirror to traits of picturesque simplicity and massive strength, which neither Macaulay nor Bancroft could more faithfully exhibit.

At the present time, the tendency of our monumental literature is to barrenness and reticence. In shunning one error, another has been fallen into equally censurable. Costly and durable shafts are often erected without the fulness of epitaph, the accurate dates, and the analysis of character, by which their historical value would be largely enhanced. Apparently it is overlooked, in such cases, that the literature of cemeteries is addressed to strangers as well as to friends and acquaintances, to coming generations as well as to the living. Completeness without garrulity, deserved praise untainted by flattery, grief and solemnity lighted up by Christian hope, are qualities of style appropriate to a tombstone. The difficulty of composing faultless epitaphs is not a sufficient reason why such tributes to the memory of departed worth should be withheld.

III. It deserves to be added that the decorations of a rural cemetery should be appropriately emblematic and typical of Christian sentiment. Ornament introduced for its own sake, that solicits admiration and seeks to dazzle, is wholly out of keeping. The embellishments should be such as will harmonize with subdued feelings and serious frames of mind. They should not please the eye simply, but touch the heart. A landscape artist can so select and group his trees and shrubs, a sculptor can so conceive and execute his designs, that they shall invest the idea of death with sweet suggestions of repose and comforted sorrow and a better life.

In the fitly chosen words of another,* "Here let there be trees, with their grateful, soul-subduing shade; there let us see the open lawn and cheerful sunshine; around us, on every hand, let us behold the open bud and springing seed, types of the resurrection; and in the distance, let there be, if possible, glimpses of the blue hills, suggestive of the mountains where the departed walk."

To what extent trees, so multitudinous in their differences of habit, tissue, foliage, color, flowering, fruit, and final use, might be planted as commemorative types of individual character, is a question belonging less to the comprehensive design of this article than to the æsthetic details and ideal possibilities of sepulchral gardening.

Numerous as are the varieties of moral and intellectual attribute, most of them could be fitted with a living emblem from the countless growths of the forest. The language of trees is universal, like that of a statue or a painting, and needs no translation. In portrayals of scriptural character, inspiration frequently retreats from the insufficiency of dry statement into the live language of typical

* Rev. A. D. Gridley, *Horticulturist*, June, 1855.

trees. History presses a volume into a word when the unbending hickory is taken to represent the hero whose will is enthusiasm to an army, and law to a nation. The fitness of a tree to symbolize and commemorate a character should not be distrusted, until we cease repeating and admiring that requiem-toned outburst of Shenandoah's rustic oratory: "I am an aged hemlock. The winds of a hundred winters have whistled through my branches. I am dead at the top."

In the adorning and keeping of a grave-garden, everything impertinent and offensive, everything at variance with severe taste and the Christian's hopeful sorrowing at the loss of friends, will be carefully excluded. No tipsy, reeling monuments will offend the sight, no rank weeds or tangled briars, no neglected walks or unshaven lawns, will force the suggestion that the buried are farther away from memory than from sight. It is to be hoped that the time is coming when no bin-like unsightly fences, or hard iron palisades will surround the lots appropriated to families; such close unrural circumvallations, with their pickets, padlocks, and paint, have an unsocial expression. They look as if neighbors were suspicious of each other, even in their graves; while those having lived, suffered, and rejoiced together as kindred, finally sleep together in family groups, the divisions of the ground, marked possibly by low evergreen hedges, should be such as to recognize a brotherhood in Christian faith and a common humanity.

VISITS TO COUNTRY PLACES.—NO. 10. AROUND BALTIMORE, MD.

Hampton, the seat of John Ridgley, Esq., some nine miles north of Baltimore, towards the Pennsylvania line, will strike the visitor, accustomed to the cottage *ornée* only, as expressing more *grandeur* than anything in America. The mansion, situated on a domain of five or six thousand acres, was erected soon after the Revolution, 1783 we think, is one of those elegant and yet substantial dwellings which our fathers knew so well how to enjoy. It brings at once to the mind the "Republican Court," as Mr. Griswold calls General Washington's establishments, and one expects to see Martha Washington issue from the door in the dress of the portraits in that veritable book. The façade is one hundred and eighty feet in length, with offices attached; it is all of the best materials, and in the finest preservation. The entrance hall is of great width, and passes the visitor to the south front, where is the terraced garden. This hall is furnished as a large living-room, and is, in fact, such, with the addition of its being a noble picture gallery, where are collected some of the best specimens, including family portraits in full lengths by Stewart and the best painters of the day. The large windows at the sides of the doors are embellished with fine colored glass in elaborate figures and pictures, and take it altogether we do not hesitate to pronounce the *tout ensemble* of the very finest kind; the expression involuntarily occurs—

"And Grandeur, a magnificent abode."

If all this strikes you as new and beautiful and rare, the impression is soon enhanced by the kind greeting and the suavity of the lady of the mansion, who would grace a palace, or make a kingdom of a cottage; other members of a large family could be particularized, if it were our duty, or it were modest to paint portraits; and it is just here that our difficulty occurs as we attempt descriptions where the best half has to be entirely omitted. Suffice it, then, to say that at the mansion of "John Ridgley of Hampton" there is everything that the human mind need covet, and that it fully represents at this day, the scenes of what, for

want of a better, we must again call the "four-in-hand" style, here literally such, but on which it is not now our object to dwell.

Some of the original planting was good for that age, but our ancestors had not the same choice of trees as their descendants, and if they even knew *what to plant*, could procure the trees only at great cost and with difficulty. Importations were unknown, and transportation from the few commercial nurseries was attended with too great delays to expect success. Fruit-trees were almost the only things sold in those days by nurserymen. The resort then was to the trees of the vicinity, and at Hampton are specimens of cedar hedges of much age that most emphatically exhibit their want of adaptability for that purpose as a permanent ornament. They have had a period of beauty, have lost their lower branches, have been cut by the frost and the winds, and are to be replaced with hemlock and arbor-vitæ, &c. The old cedars dispersed about the terraces, and which must have had a good effect when in their perfection, are now much injured, but still stately, and telling of the days of their elegance when a former generation inhabited the mansion.

With this exception, the terraced garden and the flower garden are entirely complete. Grass is employed for its broader walks to prevent washing, and it is kept short and in the finest condition; the whole air is that of neatness, and presents a scene entirely in accord with the dwelling. We could not but remember the terraces at Versailles as we stooped in the shadow of long rows of full-grown lemon, orange, and shaddock trees, covered with enormous fruit, blossoms, and leaves, giving an expression which nothing ever will give that is not foreign to the climate. The lemons on these trees are of extraordinary size; this family of exotics has a large house for its especial winter quarters.

A beautiful Swiss cottage in fine taste greets the weary at one end of the garden, and behind it are the extensive hothouses, graperies, and orchard-houses, from which the best evidences of the success of the gardener, Peter Reed, were found on the dinner-table. Mr. R. should remember, and he probably does, that the Americans say Prince Albert has got "a good situation," and if a gardener can congratulate himself on having one also, it should be Mr. Reed. He is surrounded as few can hope to be.

We could take our readers to the fine stables, and record their costly contents, describe works of art, and the glowing ruddy grandchildren who embellish everything, but we refrain. Hampton has rarely appeared in print, and one scarcely knows where to lay down the pen when such fascinations are met with in such profusion.

The owners are fully impressed with the beauty of trees; some very fine specimens are around the mansion, and progress is marked by the conversation in which the relative success of importing from France or England is knowingly discussed.

The neighborhood of Baltimore will afford us occasion for one or two more sketches.

ABIES PINSAPO.

THE pleasure-grounds at Ribston, England, which are extensive, varied, and very beautiful, contain many fine specimens of trees and shrubs; the evergreens are particularly fine. There are a great many handsome promising young Conifers about the ground, and among them some very fine young trees of *Cedrus Deodara*, also two very handsome young specimens of *Abies Pinsapo*—one about eight, and the other about twelve feet high; both are perfect gems, of the general

appearance of which some idea may be gathered from the accompanying representation of one of them. We also noticed a nice, healthy plant of *Taxodium sempervirens*, which has stood out several years unprotected. It is, however,



Abies Pinsapo.

growing in a dry, sheltered spot. *Cryptomeria japonica* has also stood the winters well, unprotected. There is also a fine tree of *Pinus excelsa*; there are a

number of other very flourishing young plants of Conifers in the grounds.—*London Florist.*

[The *Abies Pinsapo* is very striking and handsome for a stiff tree, and is somewhat like the Silver Firs, only its leaves are curiously recurved, having the beginning of a resemblance to the *Araucaria*. The specimen at Wodenethe, we find by our memoranda, is six feet high, and perfectly hardy.—ED.]

GARDEN VEGETABLES, NO. 6.—OKRA.

BY WILLIAM CHORLTON.

THIS plant is the *Hibiscus esculentus* of botanists, and one of the natural order *Malvaceæ*, the whole of which are more or less mucilaginous. Okra in particular owes its culinary importance to the abundance of the aforesaid property. It is a valuable emollient and demulcent, is constantly used in the tropics for thickening soup, and is now becoming quite popular in our own country for the same purpose. A bowl of good *Okra*, *Bendee*, or *Gombo* soup (it is known by each of these three names in different countries), is indeed a great luxury, and acts medicinally by allaying irritation of the digestive organs when subject to inflammation. There is little doubt but, during hot weather, when these disorders are so prevalent, that this is one of the most wholesome kinds of food, and we never find any person who does not relish it after having once become acquainted with the article.

Being a native of the West Indies, and constitutionally a tropical plant, the soil is required to be somewhat warmed by the sun's influence before the seeds are sown, or they will rot in the ground. For extreme northern latitudes the latter part of May is soon enough, while in the Middle States it may be two weeks earlier, and proportionately more so farther south. Okra will grow in almost any kind of soil if well drained, but does not succeed upon a wet cold bottom; the best is a fertile sandy, but not over rich loam. Rank or fresh manure causes the plant to grow too luxuriantly, and reduces the comparative yield of pods. In very rich soils the stalks will extend to six feet high with numerous side branches, and will be later in beginning to produce, while in poor ground they will attain to no more than three feet, and commence to flower when only a few inches high. In the former case the rows may be four feet apart, and in the latter, three feet will be amply sufficient. Draw drills one inch deep, sow the seeds three inches distant, and, when the young plants have grown three or four inches, thin out to eight or ten inches; at the same time hoe up some soil to the stems, which will encourage the advancing development.

The young seed-pods are the only portions made use of; they are in a fit state for gathering when grown to about half their size, and still brittle. If left on the plant longer they soon become tough and stringy, and are then of no value. As the pods are produced in quick succession throughout the season, and as also, if they be left ungathered, the plants would sooner become exhausted, it is necessary to go over the crop every three days, cut off all that are ready, and what are not wanted for immediate use should be cut transversely into thin slices, and dried for winter use. During the drying process it is requisite to keep them in a situation where the moisture can evaporate freely and soon, and also to be spread out thinly. They may be exposed to the sun during favorable weather in the day time, but taken in at night; or they may be laid near a fire until fit to be packed away; before doing so, however, all the moisture should be dissipated, or they will become mouldy and worthless after a time.

How to prepare Okra Soup.—Stew a shin of beef thoroughly, and until the meat falls away from the bones, strain the liquid and set away until cold, then remove all the fat from the surface, when, if good, the under contents will be a stiff jelly; put this into a stewpan, with a dozen sliced Okras, six or eight tomatoes, according to size, the grains of three heads of sweet corn; boil one carrot until tender, and afterwards chop up with two onions, one ox-heart pepper, a small handful of parsley, a little celery tops, and a small portion of summer savory, or common thyme. Simmer all together for two hours, salt to taste, and serve up hot.

THE POMOLOGY OF THE WEST.

BY "PRYOR'S RED."

How great the subject! How vast the country! What multitudes are daily rushing to fill up its vast plains, its prairies, and its forests! And what a field is presented for the labors of the agriculturist, horticulturist, and pomologist!

The genius of Downing has given to the Northeastern States what the West now demands—a book of the fruits and fruit-trees of the Mississippi Valley. The confusion in the nomenclature of the fruits of this vast section of country, is rapidly increasing; the reasons are, first, because nurserymen, ignorant of the importance of the subject, are selling trees, either not correctly named, or else knowing nothing of the fruit they are disseminating beyond the local name, have never thought it worth their attention to inquire; secondly, because (alas! for human frailty) many nurserymen do not care whether they impose upon the public or not; the consideration with them is, to sell trees, and pocket the money of those who rely upon their honesty to sell them good fruit. But, I fear, the greater reason is, purchasers are not, in the main, sufficiently particular; they *will* buy where they can get the cheapest trees, and some of them think, if they get *grafted* trees, that will insure them good fruit.

From these and many other causes, the pomology of the West demands the attention which its importance merits. It is true, many of the leading fruits of the West are noticed in the works now published, but it is merely a notice. A Kentuckian opens Downing's great work on fruits, and reads the glowing descriptions of Northern apples; he thinks he has been cultivating nothing but worthless seedlings all his life; he sends to an Eastern nursery for trees; after years of labor and care, he reaps nothing but disappointment. Who will say they ever saw in Kentucky a Baldwin Apple equal to a Pryor's Red, or a Northern Spy as good as a Jennetting? Yet there are many persons in the West who *will* buy trees of itinerant agents of irresponsible Northern nurseries; and verily, they shall reap their reward.

In passing through the States of Ohio, Indiana, Illinois, Missouri, Kentucky, and Tennessee, during the fall, you will see in shops and fruit-seller's baskets, beautiful apples of every color. If you inquire the name, no one can tell, or they tell you that fine red apple is the Lady Finger. The apples are fine, you get some grafts, go home, and examine your book on fruits, and the Lady Finger is not a red apple, if, indeed, you find it at all. You think, at least, it is a good apple, and you propagate it as Lady Finger, and disseminate it among your friends. And thus it is, confusion becomes worse confounded. What Downing did for the fruits of New York, the New England States, New Jersey, and Pennsylvania, is just what we want, and must have, before we can take our proper stand as fruit growers, and before our excellent fruits can be properly appreciated.

THE APPLE-TREE BORER AND CURCULIO.

BY AN INDIANA SUBSCRIBER.

CULTIVATORS of fruit, perhaps more than any other class of husbandmen, are subject to more drawbacks and embarrassments than patience can often endure without grumbling, and they are always glad to hear a suggestion which may, "within the prospect of belief," be a remedy for any slight malady. That which has led me to this communication, and which does very materially affect the culture of one of our most staple fruits, is the "apple-tree borer," which, instead of decreasing with the advancement and demand of this important fruit, seems to evade even the most scrupulous ingenuity of those who give him battle. I have been thinking of a remedy which I am quite sanguine in the belief may be *effectual*, and once done *is* done, and needs no more anxiety; the simplicity of the thing, as well as its economy, will make it a good experiment for those who wish to try one. If I correctly understand the nature of this pest, it is a merged moth (not very unlike the one which infests the currant), which deposits her eggs under the coarse, dead bark of the tree at its collar, near the ground, and the larvæ, hatched from these eggs, when sufficiently developed, commence the boring. Instinct has perhaps instructed the moth that several advantages are secured in commencing so near the ground. One may be the softness and succulency of the wood at that point during the growing season; another, she provides for her young a place secure from storms, wind, and weather; or, the peculiar habits of the moth may be, to fly near the ground, and never ascend as high as the branches. Well, *whatever* it is, we know that *this* is the place that the insect commences to depredate, and, in viewing these peculiarities, I am of opinion that something like the following would be attended with fair results as a remedy:—

Prepare some boxes—say one foot or more in diameter, and eighteen or twenty inches high (without bottom)—to be placed around the foot of the tree; the ground should be removed, so as to allow it to rest within an inch, at least, of the roots (old trees, particularly). This box to be filled with ashes. I would not try this upon young trees whose fibres had not extended more than three or four feet from the trunk, though, even then, I doubt if it would be injudicious. The result of this, I think, would be plain and effectual. The borer certainly wouldn't bore into the box, and the strong alkali would prevent his undermining; nor do I think he would commence on top. Now, Mr. Horticulturist, if you can believe with me that the borer will give up this "post of *entré*" as impregnable (and I hope many will practically prove it this season) then I will be confirmed in my hope that the enemy is conquered; but if, as a last or final resort, the branches and trunk are resorted to, I fear we will have to hang our harps on the willows.

Mr. Longworth's remarks in regard to paving for the curculio, I deem well worthy of special attention. If by paving with brick we can once more enjoy the Green Gages, Washingtons, and Jeffersons, of ten years ago, then, I say, *pave*. One mustn't pave one, two, or three trees in a whole plum yard, and then condemn the system because it is not effectual, for any man of reasonable mind knows that the curculio has wings, and can communicate with the whole yard in this way. I think that it is herein that failures have occurred, and we hear it said: "'Tis no use to pave; I've tried it." Some persons say: "It's too expensive." I'll prove that it is not. Twelve feet around a common-sized tree, I think, would be sufficient, and it would take some six hundred and forty bricks of the usual size to do it, which, at \$5 per thousand, would be \$3 25, and say 75 cents for laying.

Cost of one tree, \$4. Now, a reasonable crop of Green Gages, from a full-grown tree, would be about two bushels. These, at the Montreal market, I have sold at \$8 per bushel; they would perhaps bring more at New York or Philadelphia. Well, there is \$10 net profit, after paving and marketing, picking and packing! Who says it won't pay to pave?

Another subject I may speak of, which will perhaps suit some one, in regard to trees received from a nursery in a shrivelled and dry condition, which I have seen tried on President Wheeler's grounds, Burlington, Vt., with success. It is simply to place a barrel (without bottom) around the tree, and fill up with tar or sawdust; this, with a good mulching, will seldom fail to bring vitality to light, if it exists at all.

SPECIAL MANURES.

BY L. WYMAN, JR., WEST CAMBRIDGE, MASS.

In answer to a respected correspondent who writes from "York," and asks "which do you consider the best stimulant, for the pear-tree, of all the 'special' or 'manufactured manures' you have used?" and "please state the result of your experiment, &c.," I would simply reply that, having made quite a number of experiments with "special" manures, particularly with reference to their fertilizing qualities when applied to the pear-tree, I most unhesitatingly give the preference to GOULD'S MURIATE OF LIME, *over all others* which I have ever used.* As a stimulant, I consider it the *best* I ever applied, imparting more phosphate to the soil, in relation to the cost of the same, than any of the special manures, guano not excepted. Some four years since, I planted from the nursery about twenty young pear-trees, measuring from one and one-half inches to three and one-half inches in diameter. These trees were placed in a gravelly loam, good soil, and were well manured, with finely pulverized house manure, and a compost of street sweepings, &c. The soil and location considered good for the growth of the pear-tree. From some cause, these trees, although *well* planted and carefully attended, made scarcely any growth of wood for three years, not growing scions over three, and many of them not over two, inches in length. I tried an application of Gould's *Muriate of Lime* in the following manner:—

Removed the soil about the tree to near the roots, leaving them thinly covered with earth over them. Next applied, by measure, one quart of Gould's Muriate to the roots of each tree, covering a space of from two to three feet around; replaced the soil again, and *mulched* thinly. These trees received no water, or other treatment, for a year, and nearly all of them made a vigorous growth; in some of them, the last year (1856), scions are, by actual measurement, over two feet and one-half in length, and the scions healthy and strong. These trees are now in good, healthy condition, and will doubtless make a rapid growth the present season. The above trees can be seen by the curious, or those interested in the culture of the pear-tree. I have made other experiments with this fertilizer, and, in all cases, the same has given me the most perfect satisfaction. I can, from actual, careful experiment, recommend it as just the manure for the growth of

* I have used nearly all kinds of stimulants (usually denominated "special manures"), not omitting the numerous "phosphates," the "poudrettes," the "Lodi fertilizers," the "superphosphates," "guano, pure and unadulterated." I have given them all a fair trial, and, in my catalogue of "special favorites," I do not omit several astonishing "eggs" recently hatched, or pass by the theory of Liebig, or the universal "world renovator" of Mapes. I have found in them all, in a greater or less degree, a fertilizing promotive of the growth of plants to which they were offered. I suppose others have done the same.

young trees, particularly the pear. The component parts of Gould's Muriate are, by Dr. Jackson's analysis, as follows, viz :—

Carbonate of Lime	54.00
Chloride of Sodium (Salt)	14.40
Phosphate of Lime and some Oxide of Iron	6.50
Chloride of Calcium (Muriate of Lime)	2.70
Chloride of Magnesium (Muriate of Magnesia)	2.40
Ammonia	6.41
Organic Matter	4.59
Fine Sand	8.50
Loss	0.50
	100.00

Twenty per cent. of this compound is soluble in water.

It is shown, by the above analysis, that this fertilizer is a valuable manure, admirably adapted to siliceous soils, and to those which have been impoverished by long cropping.

THE FRUITS OF CAROLINA.

BY A. B., UNION, SOUTH CAROLINA.

THERE is no better region in the world, for the cultivation of fruits, than the middle and upper districts of South Carolina, and the southern portions of North Carolina. Apples, peaches, pears, plums, apricots, nectarines, and melons, grow in the greatest abundance, profusion, and of the highest excellence. But Columbia, and its immediate vicinity, is the paradise of fruits, flowers, and every species of shrubbery.

The system of culture adopted by northern cultivators differs in many respects from that suitable to this State. Mulching—a practice so universally recommended by writers upon the subject of fruit culture—has many disadvantages in this region. Owing to the more powerful effects of our sun, and the greater length of our summer, all species of insects are in greater abundance, and their ravages surpass anything known at the North. Millions upon millions of these pests of the flower garden and orchard, are brought into life by the heat long after the same species have entirely disappeared at the North. These secrete themselves under the tan bark or straw used for mulching, and there commit depredations on the young trees, safe in their retreats. A friend and neighbor who had adopted this system of mulching, informed me that a young apple-tree, one and one-half inches in diameter, had been completely destroyed by a caterpillar. He had made his way under the bark, and had actually *eaten out the whole of the wood for a space of three inches!* The tree presented no signs of decay. The bark was sound, and apparently healthy, but, on bending the tree slightly with the hand, it snapped off at the ground.

The finest apples are grown in the lower districts of North Carolina and the upper portions of this State. Union District is perhaps as favorable a locality for the culture of this fruit as any part of it or South Carolina.

The peach grows so luxuriantly, and bears such abundant crops without any attention, that it is regarded as a waste of time to cultivate it with care. Many new varieties have been originated, in this district, from seedlings accidentally growing in fence corners and waste places.

The *yellows* are unknown in this climate; but the borer is troublesome, and is on the increase, owing to the fact already stated, of the exuberance of insect life

in this climate. Peaches have not yet become a profitable market fruit. They are so abundant everywhere—growing so rapidly and frequently, becoming troublesome from their vigorous growth—that, even in our cities, the demand for them is very limited, although it is said that a citizen of Edgefield District, during the last season, realized \$5,000 by shipping peaches to the New York market.

The commonly received dogma, that the apple does not furnish a good stock for the pear, has proved untrue in this locality. Many of the oldest pear-trees in the country are upon this stock, and they are still vigorous and fruitful. There is a tree now standing in this village about which the following tradition exists: A pear was grafted on a stock of the June apple, and grew rapidly and luxuriantly. In a few years it produced fruit, and the first crop was of June apples! Every crop since has been of pears. This fact is well authenticated. Governor Johnson, of this State, was so much struck with this singular freak of nature, that he examined the tree himself, and sent an account of the occurrence (over his own name) to the *Spirit of the Times*, then supposed to be the best paper for the publication of such items.

A remedy has been long sought to prevent peach-trees which have been allowed to form forks from splitting when overladen with fruit. It has at length been discovered. Take two of the smaller limbs growing on the sides next the fork, and twist them around each other, but not too tightly. Do this at the commencement of the growing season, so as to form a union between the two forks. These limbs will readily grow together, and form a solid branch of uniform thickness, extending from one of the branches of the fork to the other, which, when full-grown, renders it impossible for the tree to split. If the end of each limb is cut and adjusted to the other at the point of final contact, as in splice grafting, it will facilitate the union, and hasten the growth.

A beautiful and singularly-shaped tree may be grown by taking advantage of this principle. Plant in good soil two peach-trees—say two years old from the seed; let the trees be such as have not been trimmed or cut back. They will probably be from six to eight feet high, and free from side branches. Plant six feet apart, and twist together, so that the united limbs will form an arch—say four feet from the ground at its highest point. Upon the upper side of this arch, let all upright shoots grow—say eighteen inches or two feet apart, and pinch off all others. These upright shoots may then be budded with choice varieties, and permitted to mature their fruit. I have found this method very useful for testing seedlings. The sap being retarded by the wrapping or twisting of the trees, the growth is not so vigorous, and early fruiting is the consequence. If a shoot which has been budded for testing, prove worthless, cut it off, and its place will be soon supplied.

Pears are grown here mostly as standards, and mostly on free stocks. A few zealous amateurs have recently introduced them on quince stocks, but they have not yet been sufficiently tested. The great objection to peach culture is the uncertainty of the crop. Our springs are so early and so variable, that the fruit is often killed by spring frosts. Once in four years may be assumed as an average of the abundant seasons.

Cherries *will not succeed* here. The common morello grows and bears well, but the finer varieties (the Bigarreaus and Dukes) it is a waste of time to plant. The cause is unknown. Cherry-trees, in my grounds (seven years old from the bud), have not yet fruited, and much older trees in the vicinity are in the same condition. There is always a profusion of bloom in the spring, and the tree gives promise of an abundant harvest, but it is all a "take in." The fruit never sets.

The "curculio" commits greater ravages here than in your colder climate.

Salt, chickens, swine, and most of the remedies recommended for this pest, are all nonsense. The only remedy is that of shaking the trees, and catching them in sheets; but this is so troublesome, in large orchards, that it is really no remedy at all.

The olive grows in great luxuriance in the lower portions of the State. Oranges and lemons are grown, in the open air, in many places on the sea-board.

I have endeavored to give you thus a brief account of our fruits. I believe that most fruits grown here are superior in flavor to those grown in the North. Our summer's sun ripens everything, but it would afford me the greatest pleasure if you or your readers could procure a good basket of our early summer peaches; they are so far superior to those grown with you, that you would scarcely recognize the fruit.

SHRUBS WITH ORNAMENTAL BERRIES.—NO. 1.

BY THOMAS MEEHAN, GERMANTOWN, PENNSYLVANIA.

THERE is quite a number of shrubs that are chiefly valuable for their ornamental fruit; many, in fact, rest their whole claim to our attention on their peculiar beauty in this respect. I have thought that a list of such, with brief descriptions of their habits, might be interesting to some of your readers.

1. *Amelanchier botryapium*. The June Berry, or Indian Cherry.—This is rather a small tree than a shrub. In the month of June, it is covered with a profusion of scarlet fruit, about the size of a small cherry. It belongs to the apple family of plants, and is as easily raised from seed, and in the same manner, as the common apple. It thrives best in a deep, rich loam, and is best adapted to an open and airy situation.

2. *Aralia spinosa*. Angelica Tree, or Club of Hercules.—Also a large, strong-growing shrub. It has quite a peculiar appearance. The stem is very thick, usually has but few branches, and is completely beset with short, thick spines. The flowers are borne from the apex of these shoots in very large panicles, succeeded by blue berries, about the size of small peas, ripening in October. It is not a plant for the most highly kept portions of the lawn. Its character better adapts it to wilder places. It increases somewhat by suckers, though it does not spread very rapidly unless the roots are cut. Every small piece will grow. The best place for it is in an unfrequented part of the lawn, where a small clump of half a dozen, left to itself, will present a very interesting feature. It seems to prefer dry, poor, stony soils.

3. *Arbutus unedo*. The Strawberry-Tree.—Whoever has travelled in the temperate parts of Europe, is familiar with this shrub, as it is considered indispensable in every garden. It is remarkable that it should be a native only of two places, and these widely distant—the Cape of Good Hope and Ireland. South of Philadelphia it is hardy, but does not grow with its European luxuriance. It is an evergreen, and the fruit, as its name imports, is of the size, color, and shape, of a small strawberry, which the tree ripens in succession most of the year.

4. *Benzoin odoriferum*, or *Laurus benzoin*. The Spice Bush.—Well-known under its common name to the readers of Wilson's popular "Lines to a Blue Bird." It is a shrub seldom exceeding ten feet high, sending up numerous shoots from its base, and bearing, in July and August, its rich, scarlet fruit in great abundance. The fruit has a highly aromatic taste, and is eagerly sought after by birds, so that they soon disappear. On the whole, there are few more desirable shrubs than this. Its favorite place is in moist, rich, and shaded soils, though it will do

pretty well in any rich and deep soil. The seeds must be either sown as soon as they are ripe, or kept in slightly moist moss or soil until they can be. If they are kept dry, they lose their vegetative power, though good to all appearances, except that they have a slightly yellowish tinge.

5. *Berberis*. The Berberry.—Nearly all the evergreen kinds (*Mahonia* section) have handsome blue berries. The deciduous species have scarlet fruit; of the latter, *B. vulgaris* (European Berberry) and *B. canadensis* (American) are best known, and should be in every garden. The fruit ripens in October, and will remain on a great part of winter. The American and European very much resemble each other; the former does not grow so strong, has a more spreading habit, the fruit rounder, and of a brighter scarlet than the latter. They grow readily from cuttings, and are not partial to any particular soil. The evergreen, *Mahonia aquifolia*, is one of our hardiest evergreen shrubs. It does not exceed four feet in height, but has a very bushy tendency. The young leaves are very green and glossy, the yellow flowers very fragrant, and the racemes of purple berries (ripe in September) peculiarly pretty. It thrives best in a rich, sandy soil, and is readily propagated by either seeds or offsets. The former are not easily procured here, on account of the recent introduction of the plant, so that the species is not so common in gardens as it will be.

6. *Bumelia lycioides*.—This plant is very scarce, and is, I believe, confined to a very small district in its native place (South Carolina). It is quite hardy in Philadelphia, where it is very nearly evergreen, and would no doubt be able to endure the winters of more northern States. In the fall, it is covered with black berries as large as small cherries, of a beautiful glossy hue. One great advantage this shrub possesses over others is, that it seems to prefer a dense, shady place, where few other things will thrive. There are several other species indigenous to the southern States, but they are not, I think, in cultivation. The seeds grow very easily.

7. *Callicarpa Americana*. French Mulberry.—This is a small shrub. The small purple flowers are not particularly handsome, but the succeeding spikes of small, purple, edible fruit, are very pretty. It is very nearly allied to the *Vitex agnus castus*, or "Chaste Tree." It grows naturally, as far north as Virginia, and, I think, would prove a desirable hardy shrub for higher latitudes.

8. *Caprifolium sempervirens* (the Red) and *C. flavum* (the Yellow Trumpet Honeysuckles) are as prominent amongst handsome berried plants as they are amongst plants with beautiful foliage or inflorescence. Both of them bear fruit very freely in this region, in the shape of large clusters of light, scarlet berries, making a much handsomer show, when in fruit, than many other plants much more sought after do when in flower. The seeds grow very readily, and if attention were given to raising them that way, it is more than probable new varieties would be originated, as they show a tendency to change. The usual way of raising them is by either layers or cuttings.

9. *Cerasus caroliniensis* (the Carolinian) and *C. lusitanica* (the Portugal Laurels) are evergreen shrubs of the first order for the beauty of their berries. They are not hardy north of Philadelphia. They are very easily raised, either by seeds or cuttings, and grow to perfection only in a deep, rich loam.

10. *Chionanthus Virginicus*. White Fringe Tree.—A shrub of the largest size, when full-grown, but it is one of comparatively slow progress, and keeps blooming as it grows. The foliage has something the appearance of the *Magnolia glauca*, and the fruit ripens in September. Each berry is about the size of an olive, and of deep, shining, purple color. Many trees do not bear, and others only imperfectly, in consequence of their frequently having imperfect flowers, for

though it is classed, by botanists of the Linnæan school, with the perfect flowering plants, it is, in reality, polygamous, as much so as the Ash, to which it is very closely allied, and on which it may readily be grafted. The barren plants attain the largest size, and make the most beautiful objects when in bloom; but all who wish to enjoy the singular beauty of the large clusters of grape-like fruit, should be careful to propagate either by layers or by grafting from the best bearing varieties; for, although there is a tendency in all polygamous plants to change their sexual characters according to circumstances, yet there is, at the same time, a strong disposition in all plants to retain any peculiarity of character that may have marked the individual it was propagated from. The White Fringe thrives well in any rich garden soil, and, if rather moist than otherwise, grows with greater advantage. The seeds are best sown as soon as ripe; if it is not possible to do so, they should be put in a box of sandy soil, and set out to freeze through the winter, and sown in the spring. It is nearly impossible to get these seeds to grow after once getting dry, unless they are subjected to the action of frost.

11. *Colutea arborescens*. Bladder Senna.—This is a very handsome shrub, and though a native of Southern Europe, is perfectly hardy in this country. It grows about five or six feet high, and is chiefly desirable for its pretty orange-colored, pea-shaped blossoms, which are produced throughout the summer. These are succeeded by very curious, bladdery fruit, which, if they may not be called handsome, are, at least, highly interesting. The plant will do well in any soil or situation, but is seen in perfection only in dry, rich soils, and well exposed to the sun. It is propagated from seeds sown in fall or spring, which grow very readily.

12. *Cornus*. The Dogwood.—Though one kind (*C. florida*) is esteemed for its handsome floral leaves, and one or two others for peculiarities in the color of their wood or foliage, the whole genus may be said to derive their chief value in the decoration for lawns and pleasure grounds, from their beautiful fruit. Two well-known kinds have white fruit—*Cornus alba*, a dwarf shrub, with large clusters, and *C. paniculata*, with smaller ones. The last grows about five feet high, and does well only in very rich soil, and a situation fully exposed. *C. alternifolia* is a large shrub, with purple berries; *C. stricta* and *C. suesica*, pale blue; *C. florida*, bright red. But the handsomest of all, I think, is *C. mas*, or *mascula*, as it is sometimes called. When full-grown and full-fruited, I doubt whether there is any plant superior to it in beauty. Its common name is Cornelian Cherry, and its fine large fruit, of a transparent coral, is well described by its name. It is a shrub of the largest size, and, to be grown in perfection, should have a dry, rich garden soil, and a full exposure. The best way of raising all the species, is from seed sown as soon as ripe, or treated as recommended for *Chionanthus*. They can be raised from cuttings by experienced hands, but they do not root as readily as many other things. They succeed well by layers.

13. *Cotoneaster*.—A genus of, for the most part, evergreen shrubs, all of which have very handsome scarlet-red or brown fruit. The best known is *C. microphylla*, which, though, I believe, perfectly hardy in most of our northern States, when growing in a north aspect, are liable to be destroyed by exposure to the winter's sun. It is said that, in some countries, in its abhorrence of sun-light, it always attempts to grow to the north, but I am not able to say whether it retains that disposition here. It is fond of a dry, stony soil; is propagated the most readily by layers. Some other species are becoming better known (as *C. marginata*, *C. dentata*, &c.); not very marked in their differences from the first, but may be, perhaps, better adapted to our climate on trial. [These beautiful plants we have found difficult to preserve for many years in succession, though they thrive for one or two. The *microphylla* is often represented in the best engravings as covering

the walls of a house with its delicate leaves and spray. Wherever it is hardy it is most desirable.—ED.]

14. *Crataegus*. The Hawthorns.—These are all well known. The two handsomest for their fruit are, I think, *C. cordata* (the Washington Thorn) and *C. oxyacantha* (the English Hawthorn.) The *C. coccinea* has large, handsome fruit, of a deep color, but not produced in such profusion as in the other two. *C. cordata* bears its fruit nearly in clusters; they are but of medium size. *C. oxyacantha* does not bear them in such large clusters; indeed, they are rather isolated, usually, but they completely cover the bush when well grown. They remain on long after the leaves have fallen, and serve to lessen the period between winter and spring more than any other plant. They are raised from seeds, which, for the most part, lie two years in the ground before growing. *Crataegus pyracantha*, or Evergreen Thorn, must not be forgotten. Mr. Buist thus writes of it: "There is not a more beautiful plant during our autumn and winter months, neither is there a more neglected one. Thickly studded with its beautiful coral berries, it forms a very attractive bush or pillar." It is very easy to raise from layers as well as by seeds sown as soon as ripe, or in spring. They do not take so long to germinate as other species of *Crataegus*.

15. *Dirca palustris*. Leather Wood.—This is a small shrub, belonging to the *Daphne* family of plants, seldom exceeding two feet high. It is a peculiar-looking plant, growing in the shape of a round, formal, stiff head, when fully exposed, and bearing, in the summer, a quantity of small berries, of a pale salmon color. It will grow well in a dry soil, but bears its berries only in a moist situation. It takes its common name from the toughness of its young wood, which may be knotted up like twine without breaking.

16. *Eleagnus hortensis*.—This beautiful shrub is supposed to be tender. In this latitude, it is perfectly hardy, and, in the late fall months, produces its beautiful, shining, black berries quite abundantly, making a pretty contrast with its silvered foliage. It is rather a full-sized shrub, and grows well in any dry garden soil, and is increased either by seeds or layers. There are many other species of *Eleagnus*, but I have never seen them bear much fruit, nor do I think many others have, as an old writer, speaking of *E. crispa*, says: "A very vigorous shrub, which brings forth long branches, used to nail up and cover the walls."

17. *Euonymus*. Spindle Trees.—Well-known plants all over the world, and much valued; *E. Europæus* is the commonest. The color of the fruit varies from seed. They are usually of a pink color, but occasionally are of a bright scarlet. There is another variety quite white. The *E. atropurpurea* has purplish foliage, much larger than the last. The fruit very much resembles, indeed, can only be distinguished by the footstalks, or pedicels, being pink like the fruit; while, in the *E. Europæus*, they are green. Some consider it only a permanent variety of the *E. Europæus*. *E. Americanus* is a low bush; the leaves are very nearly evergreen, and the fruit a brilliant scarlet—so much so, as to have earned for the plant the name of "Burning Bush." They are all very easily propagated by seeds sown either in the fall or spring, or by cuttings of the roots. They are very accommodating in their desires, being equally well satisfied with dry or moist soils, shaded or exposed situations. [Mr. Meehan has done a service by collecting and describing so desirable a class of plants. The continuation shall be given in our next.—ED.]

PROTECTING FRUIT ON THE PRAIRIES.

BY ELI NICHOLS, NEW CASTLE, COSHOCTON COUNTY, OHIO.

SUPPOSE two farmers settle in the open, bleak prairies of the West. Each plants an orchard. One in the broad plain, exposed to sun and wind; the other surrounds his lot with a double row of Norway fir, pines, or other evergreens, and then plants his fruit-trees alternately with the black spruce, or some similar tree. Which, at the end of thirty years, would be the most thrifty, and which would have produced the most regularly? The protected orchard probably would. In support of this opinion, I offer: First. Orchards, otherwise as well situated in the prairie country, but protected by woods, grow and bear better than those in the open prairie. Second. Fruit-trees, in a wooded country, bear and flourish better than those in a prairie country, other things being equal. Third. Great and sudden changes of temperature are injurious to fruit-trees. Those who have travelled in winter, in prairie countries, know the temperature is much milder and more equable in the woods than in the open prairies. The same is experienced where there are large, open fields in countries originally timbered. Fourth. The old men in timbered countries almost all recollect, that the first orchards, when the openings were small, were more fruitful and healthy than now, when cultivation has destroyed most of the forests. Fifthly. I set out a number of evergreens two years ago. Part of these were well protected with forest timber—part were not. The first were scarcely touched by the past or present winter, while the unprotected were all scathed, and some killed. Fruit-trees, especially peach-trees, were much injured by last winter; those well protected, scarcely at all. There was abundant evidence of this in my orchards.

That evergreens would be better than other timber, I do not know. My recollection of the pine woods of Virginia is, that they are warmer than other woods in cold, windy weather. But in Ohio, where I have spent most of my life, evergreens are scarce, and I have never witnessed their influence on fruit-trees. Differing as they do in their growth and habits, I have supposed they would *rob* fruit-trees less than other forest-trees would. That is, that each kind of tree might find its own proper nourishment with little injury to the other. The great object of writing this is, that I may possibly induce you, Mr. Editor, or some of your numerous readers, to communicate some facts, from good authority or personal knowledge, showing the effect which evergreens and fruit-trees have on each other. So sanguine am I, that already I have some growing. But many years must elapse before mine will tell the tale.

The experiment should be a fair one. Young trees set in near proximity to old ones, are always injured. The experiment, to be fair, should be where trees of not greatly dissimilar ages have grown to maturity together. In the old yards and grounds of the Eastern States, and of England, I should think this had often occurred. Who will let us know?

By my theory, the apple, pear, and peach, love company. They seem to me to have been in their natural *habitat*, much like our plum, crab-apple, hawthorn, &c. The plum and crab-apple, if left by themselves, where woods are cleared into fields, usually soon perish, but, if left sparsely interspersed with other trees, they flourish greatly, and bear abundantly. Even the oak seems to love association. Where it grows singly, it sends out its long, horizontal limbs, as if in search of that shade and protection, which no kind neighbor affords it. Nature starts all her forests in thickets, and thins them out as room is needed. How cruel, then, is it in man

to set out a pear-tree, and keep every protecting shoot cut, or rubbed off five to eight feet high, and then how foolish to grumble that it died. A thorough study of this matter, connected with proper experiments, might develop important results. In the long run, the protecting trees might be nearly as valuable as the fruit-trees. In the prairies, I believe something of this kind will be found indispensable. Where the forests are chiefly destroyed, it is almost equally necessary. Especially is this true of the pear. Dodridge, in his *Notes on Western Virginia*, says: "Pear blight was unknown, while the openings were small." This is true, also, of Ohio. In the prairies, it is almost coeval with the first planting. In England, and wherever the sun is less powerful, and the climate more equable, such protection may be unnecessary.

A CHAT FROM KENTUCKY.

BY W. A. TOWLES, HENDERSON, KENTUCKY.

I INCLOSE a stem, with leaves attached, of the vine I mentioned in my note. Since I wrote you, I believe I have found out the vine. In Volume VI., page 141, of the *Horticulturist*, Mr. Downing speaks of a vine in the Bartram Garden which I suspect to be the same thing. It is the Golden Trumpet flower, *Bignonia capriolata*. There is not, in the place referred to, a satisfactory description of that vine, and I may, very probably, be mistaken as to its identity. However, you can tell by the sample I sent. [It is *Bignonia capriolata*.—ED.]

I do not know what parts of Kentucky to recommend to you to visit as most beautiful in park scenery; that portion of the State where the blue grass grows most luxuriantly, is certainly as lovely and pleasing to the eye as could be desired. The total want of undergrowth gives the whole face of the country a park-like appearance. The cause of this want of undergrowth is, that, originally, it was a dense cane-brake, and I have noticed wherever the cane has been eaten out, or killed out, nothing seems to take its place for years. In the mountainous portions of the State I have never been, but, I doubt not, the same beautiful views which burst upon the eyes of the early pioneers, are to be seen still.

Of this portion of Kentucky, known as the Green River country, I can speak more knowingly. I think, as a general thing, we have trees of as large and beautiful growth as can be found this side the Rocky Mountains. Our magnificent poplars (known as tulip-trees) are most aptly described by Mr. Downing, in his *Landscape Gardening*, but, when he comes to speak of the Sweet Gum as only attaining a height of thirty-five or forty feet, he never conceived the injustice he did the tree. I have frequently seen them in the rich Mississippi bottoms, six feet in diameter, and fully one hundred feet high; and many other of our most magnificent forest-trees are, unfortunately, only spoken of as they appear in a more northern climate.

That portion of the State called the Barrens, is worth seeing. When the State was first settled, there was little or no timber upon it, but now, most of it is covered with timber of small size, and generally of the oak species.

I should like to show you our river bottoms, the most extensive on the Ohio, where you can see the cotton woods and sycamores in all their pride of place, the finest specimen of black walnut, hickory, pecan, honey locust, hackberry, and box-elder, the eye of man ever rested upon; and last, but not least, my pet vine, hanging in beautiful drapery from the boughs of the monarchs of the forest. I could also show you a region of country (about ten thousand acres in extent) where the beaver once flourished, built their dams, and sported at pleasure, before

the white men invaded their haunts. In those ponds, formed by the beaver, you can see the cypress in all its glory, and, on the ridges close by, you see the finest specimens of oak to be found anywhere.

In pomology I hope to interest you much, not that we have anything to boast of, but, on the contrary, we wish you to lend a helping hand, to lift us out of our obscurity. We want a Western pomologist; all the works now written, so far as I know, are by Eastern men, who were wholly unacquainted with our fruits. It would be worth a pomologist's attention to investigate this subject, and write a book upon the "fruits and fruit-trees of Ohio, Indiana, Illinois, Missouri, Kentucky, and Tennessee." Such a work is greatly needed, and I hope the day is not far off when we shall be granted so great a boon. Your correspondent from Trenton, living within eighty miles of this place, mentions several varieties of apples I never heard of—at least, not by the names he calls them.

[Hooper's Western Fruit Book, published at Cincinnati this year, might aid our correspondent. We hope to examine this work soon.—ED.]

A NEW FIBRE.

MR. JACOB STAUFFER, of Mount Joy, Penn., calls our attention to a very strong native fibrous substance in the following communication, which we regret to be obliged to condense. The article sent is not unknown to us, and surely presents claims for examination and trial:—

"I inclose you a few fibres of the dry stalks of the *Cenothera biennis*, stripped off this morning after having stood the exposure and vicissitudes of our long and severe winter. You will find they are superior to hemp, and, I doubt not, fully equal to the 'China Grass' (*Boehmeria nivea*).

"Dr. A. Gray says, respecting the name of our *Cenothera biennis*, L., that it is from *οἶνος*, wine, and *χρᾶ*, a chase; that the application is uncertain; Loudon informs us 'that the roots of this plant, eaten after meals, are incentives to wine-drinking, as olives are.' He also considers it ornamental, and assigns the reason why it is called evening primrose, because the flower usually opens between six and seven o'clock in the evening.

"There are four varieties—the muricata, grandiflora, parvifolia, and cruciata—one or the other common everywhere. I will simply say that it is a biennial, indigenous plant, growing in fields and along fences, from Canada to the Carolinas. It is from two to five feet high, with a rough stem, alternate, ovate-lanceolate leaves, and fine yellow flowers, which make their appearance, in succession, from June till August or September, the stalk extending upwards during the flowering season, thus producing the long spikes in fruit.

"It is worthy of notice for its medicinal properties. Schoepf states that it is esteemed useful as a vulnerary; hence it is called 'heal all' by some botanical doctors, a name properly belonging to the *Brunella Tourn*, *Prunella* L. (Self-heal).

"My object is to introduce our somewhat abused 'evening primrose' to the notice of the public. I shall send specimens, with some remarks, to the Hon. Chas. Mason, with the hope that our savans will condescend to notice this neglected plant. One thing is certain, I can manufacture a rope out of it that will be able to 'sustain its reputation,' if not quite of the dignity of 'China Grass' or 'Sisal Hemp.'

Very truly yours,

JACOB STAUFFER."

THE LATE WINTER.

BY WILLIAM BACON, RICHMOND, MASS.

APRIL, 1857, will be remembered, in this section, as the month of snow. On the 1st, we had a moderate fall; on the 6th, and again on the 14th and 15th. But the great storm of the season was on the 20th and 21st, when the burden borne by the evergreens bent them almost perpendicularly. Many old apple-trees were broken down.

A thaw commenced on the afternoon of the 21st, when the burden of snow on branches of deciduous trees, and the south and west sides of evergreens, fell off; yet, on the northeast side of trees exposed to the wind, a novel feature was presented on the morning of the 22d—tall columns of snow extending one-third around their trunk, and terminating in a sharp edge to the northeast (frozen like ice), and extending upward, following the taper of the trunk and leading branches, sometimes to the height of forty feet. We measured one of these untimely appendages at about four feet from the ground, and found the horizontal depth of this columnar mass of snow encased in ice, to be ten inches, this always varying, however, to the size of the tree.

The actual quantity of snow on the ground, on the morning of the 22d, was fifteen inches. When we take into account the amount of moisture on the surface to help melt the snow, and the moist condition of the snow in falling, it is but a fair estimate to suppose the quantity of snow that fell in this storm was thirty inches, or two and one-half feet, which makes it decidedly the heaviest storm ever known here at this season of the year. The thermometer, during the storm, ranged, on the 20th, 32° to 34° ; on the 21st, it rose to 38° , but fell at night to 30° . The wind was northeast most of the time; a stiff breeze, and, in the night, very high.

The winter has been marked by some intensely cold terms. In each of the months (December, January, February, and March), the mercury was below zero. The coldest term was in January, when the mercury was, in one instance, 23° below, and remained below through the day. The next morning, noted 20° below zero; yet our peach and other fruit buds are apparently uninjured. The new wood of last year's growth stands firm and good, thus giving new evidence that the descent of the mercury to 17° below zero does *not* kill buds.

Our experience with mice, the last winter, has been to us truly novel. We had apple-trees standing in grass land, and, within a few feet of them, trees standing in stubble, stocked a year ago. These latter were effectually protected, as I supposed, by putting piles of thoroughly rotted manure around them, well elevated at the trunk of the trees. When the frost came out this spring, we went to level the manure, and were surprised and vexed to find several fatally girdled, the work of destruction being carried from near the surface of the manure into the roots. In two or three instances, we found mice nests in the manure, the material having been brought from a distance. At one tree, we found the mischief-dealing population, which we despatched with right good will. This experience brings us to the conclusion, that mounds of well-rotted manure do not fully protect, especially when mice are very plenty or very hungry, or very much bent on mischief. Not one of the trees on grass land was molested, though no protection was given.







BEGONIA XANTHINA.

BEGONIA ZANTHINA.

Yellow-Flowered Begonia.

FOR a long time, we had only Begonias with white or red flowers, although many different species of this valuable genus were discovered. *B. cinnabarina* was an approach to the *zanthina*, but even this is shaded with the red which prevails, in a greater or less degree, in the flowers or leaves, and stalks, of all the genus.

Few plants have a greater claim on our cultivators than the Begonias, and we hope to see the *zanthina* generally introduced.

RAISING SEEDLING POTATOES.

BY C. E. GOODRICH, UTICA, N. Y.

NEARLY every species of vegetable is changed, and usually improved, when transplanted from its native wilds into cultivated grounds.

1st. The *Perennial* gains in size of fruit or seed, but usually not in quality. This improvement is often at the expense of hardiness, its more rapid growth exposing it to atmospheric changes at midsummer, as well as protracting its growth often into the cold damps of autumn.

2d. The *Annual* and *Biennial*, on being reproduced in cultivated grounds, is altered in quality, as is seen in most of our cultivated grains, roots, and flowers, the most of which may be traced to wild varieties of inferior value.

3d. The *Perennial Wildling*, on being reproduced in favorable circumstances, changes and often improves, as in the case of the most of our fruits, roots, and flowers, which are likewise traceable to wild originals.

4th. The ordinary *Annual* and *Biennial*, on being frequently reproduced and wisely cultivated, acquires a stereotyped character. (1). In quality, as in the case of our common grains, melons, tomatoes, &c., which, under similar circumstances, show little change in quality from year to year. (2). In trueness to sort. The most of our grains, roots, and flowers, have been so long cultivated in circumstances of the highest culture, that they do not, when cultivated alone, sprout into new varieties.

5th. The cultivated *Perennial*, on being reproduced, does not exhibit this stereotyped adherence to sort, but sprouts into still new varieties, often in a retrograde course. Thus, the *Swaar Apple*, *Early York Peach*, *Virgalieu Pear*, and the finest varieties of tulips, &c., rarely, if ever, reproduce themselves.

6th. The *Potato*, however, differs from all other perennials with which I am experimentally acquainted; first, in the fact that quite frequently it reproduces itself almost exactly; and secondly, that it proportionately produces a larger number of good, new varieties. This last result, however, is not true of every source from which new varieties are sought, a family of new seedlings, consisting of four or five hundred varieties, sometimes failing to give a single valuable sort.

These things being premised, I propose to make some observations on the difficulties encountered in endeavors to improve the potato by reproduction.

In the reproduction of new varieties of potatoes, we take the seed balls of some existing variety, which we call the *base*.

The important traits included in a valuable variety of potatoes, are especially the following:—

1. *Good shape.* The Western Red, Oregon, and Wild Peruvian, are good bases whence to derive shapely seedlings. The Rough Purple Chili, the New Jersey Purple, or Black Yam, the Mountain June, and Wild Bogota, are bad bases. The Chili and Mountain June, though affording but few good shapes, produce those which usually remain permanent. But the Yam and Bogota Seedlings, though exhibiting numerous fine shapes the first year, are liable to degenerate the second and third years, so that, in the end, nearly all are, in this respect, worthless.

2. *White flesh.* The Western Red (the first generation) gives seedlings which are nearly all yellow flesh. From one of that generation that had white flesh, I raised a large family of seedlings that were nearly all white flesh. The Rough Purple Chili also affords seedlings which are nearly all white flesh. The Black or Purple Yam, having very purple flesh, produces very few seedlings that have white flesh the first year, and those few are liable, subsequently, to degenerate into slight shades of purple. The seedlings of the Oregon and Wild Peruvian are very largely white flesh. On the contrary, the Mountain June, though exhibiting very fine white flesh, gives seedlings which are nearly all yellow flesh. Where the parent exhibits no shade of purple, the first year settles the color of the flesh of its seedlings permanently.

3. *Hardiness.* The Rough Purple Chili is a very strong base, and leaves little to be desired. The Black Yam is but little inferior in strength. The Western Red is next in vigor, and in its second generation gives many strong seedlings. The Oregon and Wild Peruvian are rather feeble bases. The Mountain June, that splendid old early sort, has now for many years been very liable to disease. In strict accordance with this fact, its seedlings are almost all weak, and, notwithstanding its fine shape, are very unshapely, as I have noticed under No. 1 above. There is a strong proof of a law, long known to hold true of fine fruits, that improvement in one direction of successive reproduction is limited, and that we shall frequently find an advantage in going back to the comparative wildling as a base on which to improve. The first year of the life of a seedling, especially if it be one of sudden changes, or hot, damp intensities, almost always settles the question of its health, in the experience of the careful cultivator.

4. *Freedom of growth.* The Western Red has long been known to exhibit, on an occasional hill, a dwarfed look. It begins a little before midsummer. Such hills cease growing, the lower leaves dry up, the tubers set, and the whole plant ripens prematurely. On digging, the tubers are found to be sound, few, small. The cause of this dwarfing is not obvious. Many seedlings of this variety, even in the second generation, and many seedlings of the Oregon, Bogota, and Wild Peruvian, exhibit the same tendency. Some new varieties exhibit it on almost every hill. Other new varieties, of high excellence otherwise, are occasionally deformed by it. One thing is, perhaps, fully settled, viz: those families of seedlings that were originated in a very dry year, and that were, when young, subjected to successive dry years, are sure to exhibit this liability largely. A variety that has shown no indications of it for the first four years, may be considered safe. This tendency has been the greatest discouragement I have ever encountered in the culture of seedlings. A seedling of the Wild Bogota, of which one hill, in the second year of its growth (1853), yielded thirteen pounds of tubers, and one hundred and forty balls, failed from this cause in every hill in 1854, both here and in Virginia, whither I have sent it.

5. *Resistance of dry weather.* Closely associated with the foregoing evil, and yet quite distinct from it, is the inability of some varieties to bear dry weather. In a damp season, like 1855, they yield largely; in a dry one, like 1856, very

lightly. Some of the seedlings of the Oregon and Wild Peruvian are of this character. Other and more valuable sorts, as the Early Pink Eyes, Mountain Junes, and Carters, among the old sorts, and the Mountain June, Pink Eye, Garnet Chili, and Black Diamond, with many others of my new seedlings, are capable of retaining their vitality through a pretty long drought at midsummer, and then recovering and completing the growth of their tubers on the occurrence of sufficient rains. It is true, that such late growth is often unfavorable to the fine quality of potatoes for the table, as was painfully shown all over our country in 1853 and 1856; yet, in itself, as a sign of strong vitality, it is a most desirable quality. There is, of course, a degree to which dry weather may exist which nothing can resist. Such was the summer of 1854. When the rains of September 8th came, there was no considerable power of resuscitation left in any variety of potatoes.

6. *Fine flavor.* Most varieties of seedling potatoes, after their fourth year, will be found eatable at least in a tolerable degree when properly ripened. Indeed, I do not trouble myself on this point. If the other qualities contemplated in this paper are secured, eatable qualities are pretty sure to be developed in due time. It is true, however, from causes which are to me inexplicable, that some potatoes, like some apples, even with the same degree of health and maturity, are superior to others for the table. The Carter and Winter Pink Eye are standing illustrations of this fact. In partial explanation of this fact, it may be remarked that most varieties increase in edible qualities with age.

7. *Early maturity.* Potatoes, in order to be healthful, should usually mature by the close of the ordinary season of growth. The potato, as a mountain tropical plant, is capable of growing in cooler weather than any other tropical except the Nasturtian. When hardy varieties, on the approach of the cold nights and foggy mornings of autumn, are in a state of rapid growth, and are actually extending their branches and forming new leaves, their growth is never healthful. This is the reason why very late planted crops and sorts, that at least are of late maturity, are less healthful than earlier sorts. The same thing is true of corn, melons, tomatoes, and even oats, and many other things. But when, on the approach of the weather just described, the potato exhibits vines of finished growth, though in a green condition, the tubers will continue to increase until the vines are entirely dry, and will mature healthfully. The reason is obvious. The elaborated material, stored up in the vine ready to be absorbed, was prepared in good weather. Beyond this, it may be observed that if potatoes, not eminently hardy, are cultivated in uncongenial seasons (such as exhibit severe and sudden changes, or hot and damp intensities), such potatoes will be likely to be diseased. First. If such adverse weather came very early—say late in June and early in July—before even early sorts have gained the full expansion of their foliage, then such early sorts will exhibit diseased foliage, and probably diseased tubers also. Meanwhile, however, late varieties, which are far from having made the utmost expansion of their foliage, will escape, or, at most, will suffer but a little injury of foliage. Secondly. If, on the other hand, such morbid weather occur late in the season—say in the month of August—the early sorts being already nearly ripe, will escape disease, while the late ones will quite certainly be injured, if not very hardy sorts. So, also, as already noticed, any sort not exceedingly hardy, is liable to disease in the cool, damp weather of late autumn. These remarks will explain what was considered an inexplicable fact in the early history of potato disease, viz: that in some years early sorts, and in others late sorts, were most exposed to disease.

There are many other considerations of importance in the culture of seedling

potatoes, but the seven foregoing are perhaps the most important. The reader will by this time justly conclude, that the origination of one, much more of many, varieties of valuable new potatoes, is no easy thing. My present impression is, that it could be done with much more facility in Peru, Chili, or Oregon, than here, the great uniformity of the climate there being favorable. For this very reason, however, such sorts would probably not be the best adapted to our unstable climate. From the beginning of 1849 to the close of 1854, I originated about 5,400 varieties. Of these, a few hundred were lost by frost in the winter. But of the multitude that remain, I have now but thirty-three sorts left, many of which I shall doubtless reject in a year or two. The 3,000 new sorts originated in 1855 and 1856, promise better; but even among them, the proportion of truly valuable ones will in the end doubtless be small.

The wise poulterer will not count his chickens in the egg, nor when first nestling under the wing of their mother. He watches their passage through cold alternations, and dry and wet intensities of weather. So the cultivator of seedling potatoes feels little assurance at the end of the first, second, or even the third year of his culture. He waits the results of the fourth or fifth year before he feels assured of the permanence of good qualities which may have been exhibited the first year.

Many fine seedlings which promised exceedingly fair when I gave them out in their second and third years, have subsequently painfully disappointed both me and the receivers, in some one or more of the seven preceding qualities. This accounts for the fact that so very few new varieties of potatoes secure an enduring reputation compared with the many that have been originated within a few years past. My friend, Dr. H. W., informed me, that out of a large family of seedlings originated by himself a few years ago, but one highly valuable sort had been obtained.

VERBENA SOUVENIR OF JANE C. HANSON.

THIS beautiful variety was obtained by Mr. T. E. Croft, of Philadelphia, and is, for form, size, and color, one of the best whites now grown. Mr. Croft has been quite successful in raising varieties of this bedding plant.

The Verbena now offers almost every variety of color, and hues for every taste. Taking into consideration the lengthened period of its bloom, it is unrivalled by any other plant; its increasing cultivation is the best evidence of its great popularity. To grow it with entire success, it should have a free exposure to the sun.



R E V I E W .

The Rural Poetry of the English Language, illustrating the Seasons and Months of the Year, their Changes, Employments, Lessons, and Pleasures, topically paraphrased, with a complete Index. By JAMES WILLIAM JENKS, M. A. Boston : Jewett & Co.

THIS very superb volume of 540 pages of double columns, has been on our table for some weeks, and deserves to have had an earlier notice at our hands, because it is adapted to the readers and workers who love the country and country employments. Professor Jenks has undoubtedly employed much time and taste in the collection of the rarest gems of English poetry, and he has been most successful in getting publishers to execute his design well. Independently of the poetry, the dedication is addressed to the proper persons. It is as follows :—

TO
THE HON. MARSHALL PINCKNEY WILDER,
PRESIDENT OF THE UNITED STATES AGRICULTURAL SOCIETY,
AND
PRESIDENT OF THE AMERICAN POMOLOGICAL SOCIETY,
TO WHOM, BY TITLE OF HIS LONG, INTELLIGENT, GENEROUS, AND SUCCESSFUL EXERTIONS,
ALL LOVERS OF NATURE AND HER CULTURE ACCORD A FOREMOST PLACE
AS THE FRIEND OF AGRICULTURE AND RURAL ART :—

And also to
THE MEMBERS GENERALLY
OF THE ABOVE-NAMED USEFUL AND HONORED NATIONAL SOCIETIES,
AS TO THOSE WHO WILL BEST APPRECIATE,
AND WHO BEST DESERVE THE PLACE OF PATRONS TO,
A PAINSTAKING ENTERPRISE, CONCEIVED IN A SPIRIT KINDRED TO THEIR OWN,
This Volume of Rural Poetry
IS RESPECTFULLY INSCRIBED
BY HIS AND THEIR OBEDIENT, HUMBLE SERVANT,
J. W. JENKS.

This is complimentary to Mr. Wilder, who is so intelligent and so active; he works in the cause with such a will, that it has become a wonder among his friends where he gets the time to do so much. No celebration or meeting is complete without Col. Wilder. In the morning, before breakfast, he is to be seen trimming in his garden; at breakfast, he presides at a bountiful table, surrounded by guests from all parts of the Union; the next hour, look at him, in Boston, with a pile of letters to answer on horticultural subjects, as well as important public and private business, sending a clerk to the Bank with one hand, while the other is deciding upon the name of some apple or pear; dry good dealers and partners ask questions, and take a bite of the fruit; a cargo of dry goods is bought or sold while you wait for a friendly greeting. In another hour, our cosmopolitan is seen presiding at the weekly meeting of some benevolent or agricultural society, and receiving a deputation of admiring fellow-citizens who want him to fill some civil office. At dinner, he presides at some restaurant, over a moderate meal, but with all the prominent agriculturists listening to his wisdom or his wit. A new-comer from Georgia or Wisconsin is waiting outside for information which is soon freely imparted, and the two new (but now) friends are

seen making their way out of town, to visit some garden or orchard. At dusk, he is fondling his children in his home again at Dorchester, or showing some other party who has been waiting his return, the growth of pears on the quince, and delivering the experience of twenty-five years' success. Look at him next, giving minute directions in his greenhouse, or driving the last nail in his new and admirable fruit-room. Lamps are now requisite, and we will leave him chatting with good neighbors, but with one hand arranging other letters that must be answered before sleep is permitted, or complying with some editorial request for an article detailing his experiences. Such is Col. Wilder's career at home. We all know what it is abroad, as a leading mind and an active hand.

Professor Jenks has done his task well. We could have wished that even some few more of our favorites had found admission to his pages; we cannot find the second part of Lady Barnard's "Auld Robin Gray," which, though not so beautiful as the first, is required to make it complete. The exquisite history of its composition, and the correct version, will be found in that admirable book, Lord Lindsay's *Lives of the Lindsays*, than which there is no more delightful biography in the English language.

This volume is one to be appreciated by all lovers of rural art, and we hope to see it on every table where we visit.

CATALOGUES, &c., RECEIVED.—Catalogues des Plantes Exotiques, nouvelles et rares, cultivées dans les serres de J. Linden au jardin royal de zoologie et d'horticulture, a Bruxelles, 1857. Illustrated, and full of new things of value and interest.

First Lessons in Botany and Vegetable Physiology, illustrated by over three hundred and sixty wood engravings, and a glossary of botanical terms. By Asa Gray, New York, 1857. invaluable and carefully prepared work.

A Practical Treatise on the Construction, Heating, and Ventilation of Hothouses, &c. By Robert B. Leuchars, Garden Architect, New York, 1857.

Official Report of the California State Agricultural Society for 1856. *California Farmer* office, San Francisco. A very interesting pamphlet, and entitled to attention.

Catalogue of Fruit and Ornamental Trees, Vines, Shrubs, &c., cultivated and for sale by James W. Gray, Bull's Pond, Fairfield County, Connecticut.

NOVEL HYBRID.—"An old and zealous correspondent (R. T. C.)," says the *Gardeners' Chronicle*, "has left at our office two most interesting seedlings, the produce of one plant (a florist's Picotee), and, it is believed, of one seed pod, fertilized by either a dark Sweet William, the ordinary Indian Pink, or one of Vilmorin's Garden Dianths of the Indian Pink race. The experiment which led to so curious a result, will have indeed to be repeated next season, in order to ascertain whether one seed pod produced both forms, and what was the male parent. But we have here the important datum, that Picotees and Carnations (for R. T. C. has seedlings from both) will breed freely with certain other Dianths. What a wide field for improvement is thus opened! Imagine Sweet Williams with enlarged flowers and the delicate markings of the florist's Carnation, the same in the quasi-annual Indian Pink, and our own native Mountain Pink, from which some beautiful fairy Carnations might possibly spring. In these cases, R. T. C. suggests that the Carnation should be the pollen parent, and though many—probably all—of the first cross would be selfs, and partake only of the dark or normal color of the Carnation, striped flowers would doubtless soon appear. Of the two young plants now in our possession, one has quite the appearance of a common garden Pink, and the other is very like a Sweet William; yet they are both said to be out of the same seed pod, and that of a Picotee. The last at least is a true mule."

EDITORS TABLE.

PREMIUMS.—The publisher has noticed, the present season, that unusual numbers of the *Horticulturist* have been included in the lists of premiums to be given at fairs; and especially notes those offered by the Summit County (Ohio) Agricultural Society, which holds its exhibition at Akron, on the 7th, 8th, and 9th of October next, as contained in the list advertised in the *Beacon*, of that place.

These, among numerous others, are pleasant acknowledgments of the estimation in which the work is held—flattering not only to its conductor, but evidences of the growing cultivation which is going on among us. The *Horticulturist* was the first to take upon itself the topics of rural life to the exclusion of politics and literature. It was a very doubtful experiment, and never more than partially succeeded, for the want of an audience sufficiently large to make it much of an object for any publisher to give it exclusive attention. It had and has, however, a certain popularity, which has clung to it through its whole career; but that it is not adapted to the wants of the masses, is proved by its gradual introduction. To the many its topics are sealed books, and might as well be addressed to the blind, simply because they are not practised by the many. The products of the garden and orchard, it is true, are in every one's affections, but the delights attending their success are unknown to most who partake of their benefits. There has, however, grown up in almost every county and village, a practical person or two who is studying with success those branches which we love to dwell upon, and who are anxious to receive the newest and the best information that is abroad; they continue to look to the various correspondents of the *Horticulturist* for this knowledge, and we believe they are not disappointed.

But, meantime, this partial introduction of our topics to popular comprehension, has induced numerous journals all over the land to incorporate horticultural information in their varied columns, till there is an amount of instruction abroad in the land that is perfectly bewildering, at the same time that it is useful in many instances. While this competition is discouraging to a publisher whose work leaves no field of knowledge uncleaned, it must be admitted that it gives him encouragement to believe the duty he is engaged in has made its mark, and that many others are on the track laid by the efforts of his predecessors; and when such evidences as the premiums offered by the Summit County Society meet his eye, he feels fully rewarded by the acknowledgment of the utility of the journal. But it should also be remembered, that the *Horticulturist*, from the exertions of its writers to make it useful, has gone over long since most of the topics now discussed in contemporary periodicals, and is endeavoring to make an impression for an onward progress. It purports to be an *original work*, not made by the scissors—set-up by the printer almost entirely from manuscript, the amount of which, when it is spread out, would astonish those who read it carelessly, or have never compared this feature with those differently conducted; it purports, moreover, to be in advance, and is careful, while it is readable to all, not to write down to the intelligence which has but just waked up to its subjects. It is, in short, addressed to the class which has made some progress, and is anxious for more knowledge.

For this end every available source is sought out, and it will be found that topics discussed in these pages are sometimes those which are taken up by others long thereafter.

We make no complaint of want of public patronage; our snug little parish of annual listeners continues from year to year, with additions slow, but sure, and is composed of appreciative hearers.

We have written a long homily, when a paragraph only was intended, to thank the Akron Committee, and to state what many of the older subscribers and readers will fully substantiate.

THE PHILADELPHIA PARK.—The appeal to our fellow-citizens for money to purchase additional ground for a park on the Schuylkill, has been entirely successful. Future generations will have cause to thank the originators of the plan, who perseveringly carried the measure, collected the money during the winter, when snow and ice were poor accompaniments of out-door labor, and presented the ground adjoining Lemon Hill, already the property of the city, to our Councils. The gentlemen to whom we are indebted for this great good, should long live in the memory of their townsmen. Their names are James H. Castle and C. W. Keyser, Esqs. Under discouragements which would have appalled most, they persevered in their laudable exertions, encountering objections, and subduing difficulties that can scarcely be understood, except by persons who have tried to do their fellow-men a service by anticipating their future wants. Long may they live to enjoy the results of their unselfish sacrifice of time, mind, and labor. Some fitting memento they eminently deserve.

Our Councils will now, beyond question, make a moderate annual provision for the improvement of the ground, so that the present generation may see its extraordinary adaptation to their health and pleasure. Philadelphia has now over two hundred acres in public parks.

MASSACHUSETTS HORTICULTURAL REPORT.—Mr. Eben Wight, Corresponding Secretary, has laid us under obligations for a copy of the above report, and a schedule of prizes for 1857, which are all in money, and not in books or periodicals. The report has some interesting points. Of apples "promising well," they mention the Washington (a handsome autumn fruit) and the Polish; the Fameuse (*always* good), and the Ladies' Sweeting (keeping well till May), are recommended. The Foster Apple (ripe in August) is worthy of general cultivation. Of native pears, they name Sheldon, Lawrence, Brandywine, Boston, Seckel, Tyson, Andrews, Lodge, Kingsessing, Howell, Oswego Beurré, and Adams, as the desirable kinds.

The Committee indorses Simpson's novel mode of growing two crops of grapes in one year from the same vines which gave the crop in April. Mr. Simpson made a liberal display on the third Saturday of December, 1856. The vines had a period of rest from April to August, when bottom heat was applied, and a produce of about ten pounds to the vine was the result, and the vines were in the best possible condition. The Rebecca Grape is highly lauded as superior to the Diana, and Mr. E. Rodgers is said to have fruited a number of Hybrids fertilized from the Mammoth Globe by the pollen of the Chasselas and Black Hamburg, which are promising and hardy. Mr. Allen's Hybrids are favorably noticed, and great expectations are formed of them. The Union Grape, the Delaware, and the Curtis, are also recommended.

The High-Bush Blackberry has carried off the Boston premiums; it should be trained horizontally. Of Raspberries, the Knevett's Giant and Brincklé's Orange, are favorably reported on, and Mr. Hunnewell's Stanwick Nectarines, commended. The Jenny Lind Strawberry took the \$50 plate, and the Sir Harry, Admiral Dundas, and Sir Charles Napier, are among the new introductions the most desirable. The premiums offered this year will be found varied and liberal.

THE SEQUOIA GIGANTEA has been found subject to disease in Europe. The *Flore des Serres* says: "We add a word of reflection; that, in many cases, arborists give to conifers too substantial and rich a soil. The greater part of these trees succeed in places that would be very poor and sterile for any other vegetation, and it cannot be denied when their tissues are gorged with a sap richer in azote than belongs to their nature, they become by that means alone more subject to diseases. From another side, the mineralogical constitution of the soil represents an important character which ought not to be misunderstood; one tree is made for a calcareous, another for silicious soil; another for places where clay abounds. To decide upon this *Sequoia gigantea* is a great question, before placing it finally where it must remain during its long life. It may be arrived at by trying, and sacrificing to it some specimens." We call upon arborists for all their attention to this subject.

ROSES.—A late work gives the annexed list of Hybrid Perpetual Roses: "The following are the best Hybrid Perpetual Roses in the greatest number of instances: Géant des Batailles, Baronne Prevost, Duchess of Sutherland, Mrs. Elliott, and La Reine (two uncertain kinds, however), William Griffiths, Madame Laffay, and Madame Rivers, Pius IX., and Robin Hood, Général Jacqueminot, for brilliancy, and Dr. Marx, or Robin Hood, or Auguste Mie, or Baronne Haliez; but after the first six or eight, there are a dozen of about equal merit."

WOODLICE.—The best security is said to be, to have a space a few inches wider round the sides of the bed, and made smooth with dry ashes; the ashes, &c., in which the plants are plunged, may be kept damper. Lay a little dry hay, moss, or any other handy stuff, on the dry ashes round the side of the bed, and thither the enemy will retreat. At breakfast-time, have a pot of boiling water, and a small pot with a fine rose to it. Lift the covering carefully and quietly with one hand, and sprinkle the intruders with boiling water with the other. Place also pieces of carrot in small pots filled with moss, and they will go there to feed.

TO MAKE A FERNERY AQUARIUM.—Procure two propagating bell-glasses, the one ten inches, and the other nine inches in diameter. Invert the larger on a stand of turned wood or a saucer of sand. Cut three pieces of zinc of an S shape, and hang them over the edge of the glass, the bottom of which must be covered to a depth of two inches with well-washed river sand. Fill with water, and introduce the weeds and fish.

A thin flower-glass standing in the sand forms a support for a saucer of Ferns. Cover with the smaller bell-glass, its edges resting in the zinc supports. A very amusing and instructive ornament is thus completed at a cost of five shillings.

GLASS LABELS.—These are now made of glass, for sticking into the soil after having the name of the plant inscribed upon them by means of a diamond pencil. The dark color of the soil acts as a back-ground, rendering the inscription very legible even at a distance, and the legibility would be still further increased if the back of the glass were painted black. They are made of plate glass three-sixteenths of an inch thick, are six inches long, and one inch and three-eighths wide; but, of course, they can be made of any other size desired. It must be a large stone, and thrown against it with great force, that would break this kind of label; and it has this great merit: it is invisible from a distance, getting rid of the eyesore occasioned by numerous opaque or light-colored tallies. Sixpence per dozen is the English price.

MANGOSTEEN.—Thaddeus Davids, Esq., has put us under an obligation by sending us a dried specimen, in good order, of the Mangosteen, for which we are greatly obliged.

Gossier.—The principal objection to good garden tools is their costliness; but this is more nominal than real, for, from their better quality, they generally outlast tools of an inferior stamp, and thus they are more economical in the end than common articles, of which the first cost may be considerably less. In every article needful in gardens, even including men, the best will always be the cheapest, although costing the most money.—Two millions sterling in value of beet-root spirits were distilled in France last year—a monstrous increase on former seasons. Sheep and bullocks are fed on the residues of beet after distillation, which may have had something to do with the spread of the cattle murrain.—A party has lately ascended Chimborazo, and pronounce it perfectly accessible. Its height is 19,632 feet.—The plover is pronounced, by a writer in the *Gardeners' Chronicle*, a perfect slug destroyer. He says: "A couple of these most interesting birds (male and female) would, I am almost certain, soon clear, and keep clear, any one's ground; and if he is a lover of animated nature, and these birds should breed, he will be delighted with the extreme tenderness they manifest towards their young, which are produced about the month of May; and he had better get young ones, as the old, being very wild of flight, would most likely pine. The young are so like the clods or stones among which they are hatched (as the parents make no nest) that, but for the glint of the bright large eye, they would remain undiscovered, and as long as danger is near they lie like stones, until the anxious old ones give the safety call, when they rise and run about nimbly. They feed by night as well as by day, for, on returning home at night from a visit in the country, I have heard a whole flock of them giving tongue like a pack of hounds in the marshy meadows, or, rather, like a troop of aldermen over a turtle feast, for the slugs and worms do not like to show their faces in the bright sunshine so well as the dewy nights of summer."—Mr. McEwen is now the Superintendent of the Horticultural Societies' garden at Turnham Green, London, and is giving great satisfaction. Among his improvements, the American garden is being altered and increased in extent, and, in order to induce people visiting other portions of the grounds to turn their steps in that direction, the walk between it and the conservatory is to be lined with standard Rhododendrons, which, when in flower, will doubtless produce a brilliant display quite in keeping with the character of the grounds of which they are intended to form a part. An apparatus for determining night temperatures at different altitudes, has been erected in the kitchen garden. It consists of a pole 30 feet in height, with registering thermometers attached to it; one at the top, another 24 feet from the ground, a third 18 feet from ditto, a fourth 12 feet, a fifth 6 feet, and a sixth nearly at the ground. On the morning of the 13th of March, the thermometer on the ground indicated 28°, at 6 feet high 31°, and at 12 feet 32°, making a difference of 4° in that height. On the 16th, the difference of warmth between the same height and the ground was 8°. The practical lesson to be learned from these facts will be obvious. They serve, in some measure, to explain the reason why blossoms have been killed by spring frosts on dwarf fruit-trees, while those on tall standards have escaped, and, also, the necessity of protecting the leading shoots of the more tender Conifers, and other favorite plants, in severe winters until they have grown at least 12 feet in height. From that to 30 feet in height, the temperature has hitherto been found to be the same. As yet, however, these experiments may be said to be but in their infancy.—At one of the last meetings of the Académie des Sciences, at Paris, a member produced a number of wheat-halms of more than seven feet in height, each of them bearing several splendid ears. This fine species comes from five grains found in an Egyptian tomb; sown in 1849, they yielded 1,200 fold produce. In 1850, the experiments were made on a large scale, and assumed a more important character; they have since been regularly continued. One half of a field was sown with the Egyptian, the other half with common wheat; the former gave 60 fold, the second a 15 fold produce. The experiments are now made in always increasing extension, and we may be on the eve of a great revolution.—

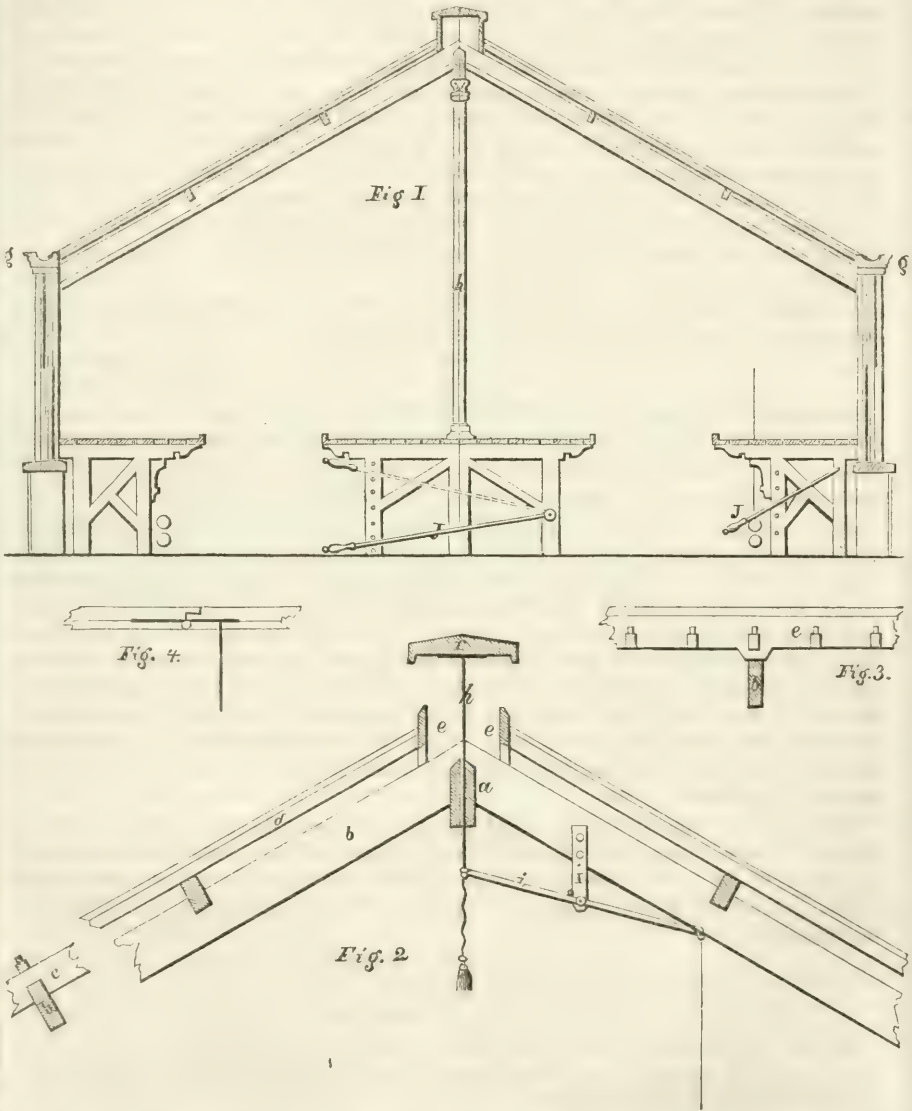
The Grammar of Ornament is the title of Mr. Owen Jones's great illustrated work on various styles of ornament, which, the London *Athenæum* says, "is bright enough to serve a London family in summer instead of flowers, and to warm a London room in winter as well as a fire. It contains the result of a life's study, aided by pupils, friends, and workmen." It contains one hundred folio plates.—Recently, at the London Horticultural Society, a young stem of the Rice Paper Plant (*Aralia papyrifera*), cut in the Island of Formosa by Mr. Fortune, who has lately returned from China, was exhibited by that gentleman. He stated that there is now no doubt that Formosa yields the greater part of the Rice paper of commerce. This beautiful substance is largely consumed in the Canton and Fokien provinces. In the city of Foo-Chou-foo, every lady wears artificial flowers made from it. It is estimated that this place alone consumes about 30,000 dollars' worth of it annually! The cheapness of this article in the market shows that it must be very abundant in its place of growth. One hundred sheets, each about three inches square, can be bought for the small sum of three halfpence. One almost wonders, Mr. F. remarked, that it is not more sought after by workers in artificial flowers. Rice paper is the pith of the plant, cut into thin sheets by the Chinese.—The *Floricultural Cabinet* gives a fine illustration of the *Clematis lanuginosa*, var. *Pallida*, and says it is one of the handsomest hardy climbers we possess, and remarkable, more especially, for the immense size of its flowers, some of which have measured ten inches in diameter. It resembles closely in habit *C. patens* and *florida*, and is therefore excellently adapted for trellis-work, verandas, and other erections of like character. Having stood the late severe winters at Paris with no other protection than a slight covering of leaves, we may be assured that there are few places where it would not do well. It is easily multiplied by layers or cuttings, and will no doubt prove a great acquisition to all who are fond of showy climbers.—Plants are, says a late able writer, in virtue of their amazing ability to convert the simplest and commonest ingredients of air, earth, and water, into the most complex and precious compounds, of as much value to the industrialist, considered simply as pieces of apparatus, as the most elaborate engines he has constructed. Nor is it otherwise with animals. They do not work with so simple a raw material as plants do; they use plants, indeed, directly or indirectly, as their raw material; but they convert them into products raised in industrial value by the additional workmanship bestowed upon them. We have thus the silkworm, whose calling it is to turn mulberry leaves into silk; the bee, who turns sugar into wax; the coccus, who turns cactus juice into carmine; the oyster, who turns sea-chalk into pearls; the turtle, who turns seaweeds into tortoise-shell; and the whale, who turns sea-jellies into oil and whalebone. The birds are the only makers of quills and feathers; the hogs, of bristles; the elephant, the walrus, and hippopotamus, of ivory; the sheep, of wool, not to speak of fat and mutton; the ox and his congeners, of undressed leather; the beaver and his brethren, of hat-felt; and myriads of wild creatures of land and sea, of furs and skins. The most important industrial relation of many others is their power, as machines, to convert weeds of various kinds into beef, mutton, venison, milk, butter, eggs, the flesh of birds and beasts, and fishes. He continues thus: "At every agricultural show, prizes are given to the exhibitors of vegetables and animals, which differ as much from their protoplasts as Watt's steam-engine does from Savary's or Newcomen's. So much has cultivation changed our most highly-prized cereals, that it is a matter of dispute from what forgotten weeds wheat and barley, as we now see them, have been elaborated. Our apples and pears were once sour crabs; our plums, austere sloes; our turnips, acrid radishes. We have as truly created such fruits and vegetables as the chemist has created ether or chloroform. The physiologist, no doubt, is much more limited than the chemist as a creator, but he is as truly one. Both work under that aphorism of the *Novum Organum*, which teaches us to conquer nature by obeying her."—Dr. Lindley is writing much, lately, regarding the decay of races, in which he upholds his former opinions very

forceably. The rose grower, Mr. W. Paul, takes up the topic, and, in the course of his remarks, says: "Although, in the *Florist* of October, 1855, Mr. Rivers writes, 'one almost fears the point of perfection has been attained, and that no better roses than those we now possess can or will be originated,' it would perhaps be hardly fair to infer that Mr. R. doubts the progression of races. This indeed cannot be, for, while depreciating new roses, he recommends a list of no less than twenty-eight new varieties of pears. It seems, rather, that he has forgotten the old proverb, 'Nature does not advance by leaps,' and expects too much from his 'old friend of thirty years' standing, the rose.' This proverb applies with peculiar force to the various families of flowers. Every raiser of seedlings knows that nature does not advance by leaps. To look on new roses as they appear from year to year, improvement is perhaps not great. If we are seeking for striking results, we must look backward into the storehouse of time. I remember, many years ago, the late Sir Abraham Hume, who was a great patron of gardening, presenting my father with half a dozen roots of single dahlias. How were they prized! Every seed was saved and sown, and, when the single row of flat petals surrounding a yellow disk was converted into a double flower, how great was the acquisition considered!"—Turpentine is recommended for the cure of scale; some experiments are detailed, and we copy the following: "To get rid of scale on orange-trees, I took a small quantity of turpentine in an earthen pan, and, as I did not use it at once, it was absorbed by the pan. I then added about three times the quantity of warm water, which was strongly impregnated with turps. To this I added a small piece of soda, and the same of soap. This was applied by the hand in the manner of washing, and it answered, as I have stated, satisfactorily."—A branching pine-apple is exciting much interest abroad. Among the curious plants sold to the Crystal Palace Company by Mr. Loddiges, was an unfruited specimen. Under the skilful management of Mr. Eyles it soon produced three young ones, and these, having now arrived at maturity, are found to possess the branching habit much as it is described by Rumphius. The specimen before us is ten inches long, twelve and one-half inches round in the widest part, and has a weak, cockscorn crown. At its base sprout out thirteen small pine-apples, each from two and one-half to four inches long, and terminating in a slender, imbricated crown. What gives this production peculiar interest, is the proof which it offers of all the "pips" or flowers of the pine-apple being leaf-buds in a state of abortion. While in that condition the parts all swell, the centre is fixed, and a "pip" is the result. But if, owing to high temperature, excessive moisture, unusual stimulants, or any other disturbing cause, the customary abortion is removed, then each pip sprouts into a branch, assuming the pine-apple conformation, and a brood of little fruits is the result.—"We have sometimes (says the *Rural Intelligencer*) sprinkled a favorite cherry-tree with ashes or quicklime, in order to save the fruit from the ravenous worms; when this has succeeded, and we have feared the robins and comb-birds, we have spread a net over the tree; but the meshes, though small, were not small enough, and we have found the birds under it taking their dinners. But the best protection against worms and cherry birds that we have yet found, is a boy in the neighborhood, who, after the fruit has been preserved until fully ripe, is sure to enter the garden and rob all that would otherwise remain as the reward of our toil and care. His parents think he is a remarkable child; and, if he continues in his thievish habits, we presume they will find that he will yet come to a remarkable end."

878 BROADWAY, NEW YORK, March 13, 1857.

J. J. SMITH, ESQ.—DEAR SIR: The great interest you take in all things relating to horticulture and the universal popularity of your journal, induces me to send you a plan of ventilation for permanent roofed greenhouses, which I think is superior, in many respects, to any I have yet seen. The construction is simple, not likely to get out of order, is easily

regulated, and can be opened in any weather, from the inside. Being in the highest point of the house, and continuous from end to end, it affords a greater escape of foul or heated air, and operates equally on all parts of the house at once; the caps, when open, being directly over the opening, protect the plants under it from excess of moisture during protracted rains. You will perceive that the sash bars are raised, by the stretchers, clear of



the rafters, thus increasing the opening at the ridge, and affording a free circulation of air, lengthwise, immediately under the glass, which, if not of any material benefit to the air of

the house, is calculated to preserve the frame from decay, as the less joining of wood about a greenhouse the more durable it will be. To illustrate the drawing, let *a* be the ridge, *b*. Rafter. *c*. Stretcher, or running raft, on which rest the sash bars (*d*). *e*. The sides of ventilator, into which is framed the upper end of the sash bars, being narrowed to the under side of sash bars between the rafters, as shown on Fig. 3. *f*. Caps covering the opening half dovetailed and hinged together as shown in Fig. 4. *g*. The gutter into which is framed the lower end of sash bars. *h*. Iron rod passing through the ridge, and secured firmly to the cap, the lower end connecting with the lever under the staging, as in Fig. 1. *i*. An attachment to be applied when a passage-way is required through the centre of the house, or to suit the construction of the staging, one end secured to the rod, the other end secured to the lever under the staging by a stout wire (see Figs. 2 and 1). *j j*. Levers under the staging operating on the cap, opening it any distance required, and secured, up or down, by stationary or movable pins placed in the frame of staging.

We have lately erected a greenhouse in connection with our place of business according to this plan of construction, drawn by Gamaliel King, Esq., Architect, of Brooklyn, N. Y., and find that it answers the purpose admirably.

Any further explanation you may deem requisite will be cheerfully given, and any improvements that may be suggested will be as gladly received.

Very respectfully yours,

ANDREW BRIDGEMAN.

ANSWERS TO CORRESPONDENTS.—(J. P. H., New Orleans). Your beautiful berried plant is the *Ilex cassina*. A few plants exist in our vicinity, but, in most winters, require protection. Very few broad-leaved evergreens will stand the test of a Philadelphia winter—at least, such winters as the two past have been. Many thanks for your kind favor.

(N. C., Oregon). No. 1, *Clarkia pulchella*. This beautiful annual is extensively grown in our Eastern gardens. No. 2 we do not recognize from the seed-vessels sent. The yellow flower belonging to the seed, in the same package, is of *Escholtzia californica*, also well known here, and appreciated. No. 3 is *Oenothera Drummondii*. The other two specimens of bulbous flowering plants we do not recognize. The blue one appears to be very handsome. We shall be pleased if we succeed in raising them, but little success, we fear, will crown the attempt to raise two year old seeds of a liliaceous plant. Most of the handsome annuals of your country have been sent to the horticultural world by Douglass, Nuttall, and other collectors. There are doubtless things that would still prove very acceptable, especially such plants as ripen their seeds early, and before the time of year the parties alluded to explored for them.

(A. D. JONES.) The *Herb of Grace* of the old writers was the Rue (*Ruta graveolens* of Linnæus), and was considered of great efficacy, in medicine, for children as a vermifuge. Ophelia, in Shakspeare's *Hamlet*, says to the Queen: "There's rue for you, and here's some for me; we may call it herb of grace, O, Sundays!" The gardener, in *Richard II.*, says of the Queen:—

"Here did she drop a tear; here, in this place.
I'll set a bank of rue—sour herb of grace:
Rue even for ruth, here shortly shall be seen,
In the remembrance of a weeping Queen."

(S. S.) You are in error in supposing there are no scented camellias. "Park's Striped Rose" is slightly odoriferous, as is the myrtle-leaved variety; but you are correct in wishing the tribe were more generally so.

(J. G., Leesburg, Virginia.) Your question is rather indefinite, as you do not say how far the "young gardener" has progressed in his studies. Loudon's *Encyclopædias of Gardening and of Plants*, are the best, and, for a "beginner" in botany, there is no book equal

to Gray's *First Lessons*. We still think there is no better work to study for gardening purposes than McMahon's, now going through a tenth or twelfth edition in this city.

(JOHN T. PLUMMER, Richmond, Ind.) "One correspondent says tan is of no service to any crop but the strawberry; another, that it is an excellent manure for the raspberry." The old adage, that what is "one man's meat is another man's poison," is applicable to the use of tan as a manure. It is very uncertain in its results. Applied to strawberries, we have known it utterly to kill out the plants, and, in other cases, to benefit them remarkably. It no doubt varies in its properties, and this accounts for the different experiences of the correspondents alluded to.

The Autumnal, Boston, Marrow, and Marrowfat Squash, are all names for the same article; the vegetable Marrow is another thing.

"Some say, thoroughly manure fruit-trees; others say, add none at all. What shall the inexperienced do?" Fruit-trees must have rich soil. Manure moderately at first. If the trees continue healthy, but grow slowly, add more nutriment till they grow vigorously.

"Lindley says: 'It has been ascertained that silex, phosphate of lime, phosphorus, &c., are formed in plants, the aliment of which did not contain them; it is inferred, the presence of such principles depends upon the operation of the vital principle of vegetation.' Does such a man as Lindley, in the middle of the nineteenth century, mean to say that plants create silex, &c.?" We "guess" so; something of that sort. Our correspondent should remember, that "though in the middle of the nineteenth century," very little is known of these things. We scarcely know what we mean, even when we speak of vital force. Oxalate of lime has been found, in its granulated state, in the structure of cactuses, without a trace of oxalic acid or lime being found in the soil that supported them. Where would our correspondent suppose it came from?

The Japan Pea has various common names. It is, as you suppose, the *Soja hispida* of botanists. Many species of *Cajanus* are used for the same purpose as this, and occasionally get the same common name. Our correspondent recommends it very highly as a productive, easily cultivated, and excellent family vegetable.

FLUSHING, 3d Month 7, 1857.

RESPECTED FRIEND: I notice, I think, a mistake in the last number of the *Horticulturist* (page 149), respecting the Chinese Quince. It is there stated that it is the *Cydonia japonica*, "grown here for the beauty of its bloom." The Chinese Quince, as stated by C. D. Meigs, is the *Cydonia sinensis*, totally distinct from *Cydonia japonica*, or *Pyrus japonica*, as it is more generally called, and also from every other variety of the Quince. I am surprised that it should be anywhere stated that the blossoms are "of a fine rose color," for, if not quite white, they have, at most, but a very faint blush. I have known it to fruit here, but by no means freely. It grows, however, *freely*, is perfectly hardy, and makes an upright, handsome tree, with very pretty and striking foliage, and is entirely free from thorns, and in every way as opposite as can well be imagined to the species with which it is confounded. We cultivate a variety called *lutea*, but it appears to be identical with the other, and has probably been added to swell some catalogue.

I have been acquainted with a tree of the Chinese Quince, in this town, about twenty years, and I doubt if it has produced, all told, as many fruits.

Respectfully thy friend, JOHN B. FOSTER, *Foreman for Parsons & Co.*

[Mr. Foster is right.—Ed.]

Betula excelsa.—In the February number, it is rather assumed that the *Betula excelsa* and *lutea* are distinct, but nearly similar species of birch. I had never doubted but that the *excelsa* of Willdenow, Acton, and Bigelow, is the *lutea* of Michaux, f.; and Bigelow, I observe, gives the *lutea* of Michaux as a synonym of the *excelsa*.

A. W. C.

THE *New Rochelle Blackberry* will not endure our winters here, unprotected ; neither will the finest raspberries ; I have just noted, as follows :—

Hudson River Antwerp Raspberry, not much injured ; about a third of last year's growth killed.

Col. Wilder, slightly injured at ends of branches.

Brincklé's Orange, not much hurt.

Knevel's Giant, slightly injured ; about as hardy as *Col. Wilder*.

Cushing, killed down to snow-line.

Vice-President, rather tender ; killed more than half last year's growth.

Thunderer, nearly as hardy as the common Blackcap. This is a very strong grower, producing a good-sized, firm fruit, well adapted for market.

These varieties all need protection, but they pay well for it.

Peaches, cherries, and plums, are in good order.

Yours, truly,

CHARLES BETTS.

St. Joseph's County, Michigan.

STAUNTON, VA., March 25, 1857.

EDITOR OF THE HORTICULTURIST.—DEAR SIR : I send to you this day, per Adams & Co.'s Express, a sample of an apple cultivated and disseminated through this State under the name of "*Albemarle Pippin*." My attention was called to it seven years ago (soon after I came here to reside), it being spoken of in the highest terms. I put myself to no little inconvenience to get a glimpse at the *ne plus ultra* of apples, and, I assure you, I was not a little surprised to meet an old acquaintance—the *Yellow Newtown Pippin*. I obtained some specimens at the time, and presented them to persons whom I thought better acquainted with fruits than myself, and they agreed with me that it was, beyond doubt, the *Newtown Pippin*. The specimens I send you are not so fine as we often have, nor do they show to a good advantage, as they have been much bruised by hauling some thirty miles or more over a rough road ; but you will make due allowance for all this in treatment, and, I think, still find the *Newtown Pippin* in them.

Thomas, in his *Fruit Culturist*, describes the *Albemarle Pippin* as a distinct variety. There is no doubt that soil and climate have much to do in bringing out the good qualities of fruit, and *Albemarle County*, and all that range of country in proximity to the eastern base of the *Blue Ridge*, so far as I am familiar with it, seems particularly adapted to the growth and perfection of that variety. As I said before, it is cultivated and disseminated through this State as a distinct variety, and it is for the purpose of correcting this error that I now write, as I think it the duty of every one to correct every error in the nomenclature of fruits that may come under his notice.

FRANKLIN DAVIS.

[We think the apple is the *Newtown Pippin*, modified slightly by soil and climate.—ED.]

MARIETTA, OHIO.

J. J. SMITH, Esq. : I send you to-day, by Adams' Express, a couple of apples of a variety called here the *Prince Apple*. It is one of the most salable and productive varieties we have. In season from December to May ; keeps well. The specimens sent are the best of last season, but no more than the average of a good apple year. If you are acquainted with the apple, please give the name by which it is known, as I can find no apple of the name we give it here in the different works on fruit, or in catalogues.

Yours, respectfully,

J. M.

[The "*Prince*" was received in good order, but it is unknown to us. It has something of the appearance of the *William Penn* of *Columbia*, but all the specimens of the latter we have seen are more oblate.—ED.]

TO THE EDITOR OF THE *HORTICULTURIST*: Noticing in your valuable magazine, of the present month, an advertisement for the sale of the Becar seedling camellia, *A. J. Downing*, I was much surprised that so rare and truly beautiful an acquisition as this certainly is (doubtless, by all odds, the finest American or any other seedling camellia ever raised), was not more generally advertised; of course it was in the *Horticulturist*, and why not in *Hovey's Magazine*, *Country Gentleman*, &c., that all readers might have an opportunity of trying for, if not all able to procure so rich a floral treasure? For my part, I think it very clumsy management on the part of those to whom the matter was intrusted (which by no means is intended to include Mr. Rauch, the worthy *agent* and good florist). A drawing of it ought to have been taken when in flower last winter, and by that accomplished flower artist, Mr. Wakeling (now somewhere within hail, even in this wide country), the prints carefully colored, and published as the frontispiece of your number simultaneously with the advertisement. Q. Q.

N. J., March 26, 1857.

MILFORD, CONN., April 15, 1837.

J. J. SMITH, ESQ.—SIR: I transplanted some tulip-trees, two years ago, with such success, that I wish the readers of the *Horticulturist* to know how it was done. In June, when the trees were in full foliage, I selected trees—say six or eight feet high, growing in turf ground. I took them up with the sod around the roots. I then *pinched off all the leaves*, and planted them without shortening in; they soon threw out new leaves, and are now thrifty growing trees. I have also found no trouble in transplanting our native hemlocks, by taking them up with the earth *unbroken around the roots*, which is easily done when they do not grow among the rocks, as they always throw out a network of roots on the surface, and, with proper care, they can be taken up without exposing the roots. Should the earth fall off from the roots, throw away the tree; you cannot save it.

Yours, truly, G. C.

TREDDLE SPADE.—Subjoined is a sketch of my treddle spade. It is a most useful tool for raising trees, so powerful as a lever, and most convenient for root pruning; for, although it does not cut cleanly, I find that the roots that are cut with it heal more quickly. It is



curious to see, in rural matters, such tenacious customs as one often finds. My men, a large body (seventy or eighty) of "cute" laborers, will not use a garden spade; they call them, for nursery purposes, "old women's tools." The blade of the treddle is eleven inches long, eight inches wide at top, and six inches at bottom. From top of haft to blade is two feet three inches; entire length, three feet two inches. About four inches of lower part are of steel, so as always to be sharp.

THOS. RIVERS.

DEXTER SNOW'S VERBENAS.—We have the following note from Mr. Snow, and are pleased to record such success. The idea of taking up a simple popular plant, and devoting exclusive attention to it, was new, and deserved to succeed. His letter is as follows:—

CHICOPPEE, MASS., May 19, 1857.

"I forward you a box of one hundred varieties of verbenas, for the purpose of showing you I have some fine ones, and that you are not assisting and countenancing a humbug! Your notice in the March *Horticulturist* has been a great assistance to me, and has done

more to encourage me than anything I have had done for me before; it has seemed to inspire confidence in the people, as many have stated your work caused the orders. With such assistance, my business cannot be otherwise than a success; and I am quite unable to pack and get off my plants fast enough, my orders being now two thousand plants ahead of me, and two men packing all the time, and am sending them into every State in the Union, Canada, and New Brunswick—in fact, wherever the *Horticulturist* circulates. Please place them in one bed, to see how they compare with other collections. I put in a good stock of sweet scented varieties."

CITY OF SAN JOSE, CAL., Dec. 10, 1856.

MR. EDITOR.—DEAR SIR: We have started a State Horticultural Society in California. I have sent you a copy of our Constitution. It was organized at our last State Agricultural Exhibition, held, in San José, in October last. We intend to meet in San Francisco, in April next, and complete our Constitution and By-Laws, and after that we shall no doubt have monthly, and perhaps semi-monthly, exhibitions of fruit and flowers, as they come in season.

Horticulture, in all its several branches, will, no doubt, in course of time, be developed, in California, in all its beauty, richness, and grandeur. The congeniality of its climate, the almost endless variety of its soil, and its scenery; the countless number of its indigenous plants, of almost every name and gender; indicate plainly that all that is wanting is industry and science (and that is fast coming on), to collect, arrange, and display, the rich treasures scattered throughout its valleys, plains, and mountains. Flowers cultivated here appear to have brighter tints, a more delicate fragrance, and a more contented appearance than the same varieties have in other countries; fruits have a richer flavor, and are generally much larger in size than they commonly have. I am afraid to tell you the size and weight of some of the fruits exhibited at our last annual Agricultural and Horticultural Exhibition. What think you of winter pears weighing a pound each? Bartlett's weighing twenty-seven ounces, and measuring sixteen and one-half inches by seventeen and three-fourths?

Yours, respectfully,

WM. DANIELS.

WINE.—In a letter from Naples, the writer assures us that there will be a very productive wine year in Italy, the vines not having presented so healthy an appearance for many years. The people decline to use sulphur, as they assert that wine made under its influence was undrinkable.

MOUNT JOY, PA.

J. J. SMITH, Esq.—RESPECTED SIR: The vegetable curiosity in the shape of an enormous truffle, found in Virginia, is highly interesting. I examined the account published in the *Agricultural Patent Office Report* for 1854, respecting the culture of the Piedmontese Truffle (*Tuber magnatum*), and that of *Agaricus campestris* (the Mushroom.) This latter is stated to be from one to three inches, sometimes four or more, in diameter. The author of the *Vegetable Kingdom* (Wm. Rhind) states that they vary much in size, and mentions several instances of being upwards of nine inches in diameter, and one weighing one pound eight ounces, and measuring thirty-two inches in circumference, and ten inches around the stem.

The truffle, so celebrated in the annals of cookery, is found, in clusters, some inches under the surface of the ground, and no appearance to indicate their whereabouts. Dogs are trained, with much pains, to search out these subterranean delicacies. Loudon informs us that an instance is recorded of a man having possessed this power. One weighing four ounces is considered large for England, yet, in Italy, some are occasionally found weighing from eight to fourteen pounds. (*Vegetable Kingdom*, Wm. Rhind, p. 193.) Lindley informs

us that Borch raised *Tuber Borchii* from the sporidia about the year 1780, and the growth of the common Truffle has been attempted with more or less success. Your correspondent takes it for granted that your readers are aware of its locality, since he does not state how or where it was found, on or under the surface of the ground.

I am led to make these remarks from the fact, that, in my botanical rambles, I have, on several occasions, met with a species of fungi, on the edge of woods in old pastures, of enormous size, lying close to the ground, in appearance like a loaf of home-made bread, having a firm white flesh internally. I am not now prepared to say, whether a species of *Agaricus*, or allied to the *Borista gigantea* of Europe, is edible, not being particularly interested in fungi, and always suspicious of them as food, in consequence of the resemblance of poisonous and wholesome species. I would not question the ability of the Professor of Chemistry of Georgetown College to discriminate and judge correctly, yet deem a fuller description needed to enable the readers of your journal to judge for themselves.

Yours, respectfully, JACOB STAUFFER.

P. S.—Respecting the Buckwheat-Tree (*Cliftonia mylocarum*), it may not be amiss to say, that Prof. Darby describes it, in his order, *Ericaceæ*, next to *Elliottia*. Both these plants Lindley includes with *Cyrilla* in his order *Cyrillaceæ*, among the *Berberal* alliance.

You say, a tree in blossom is figured in Nuttall's *Supplement to Michaux's Sylva*. A few years ago, Rev. Dr. J. G. Morris, of Baltimore, presented me with a large collection of Florida plants, unnamed, over which I have frequently puzzled myself, with the aid of Lindley and Loudon's *Encyclopædia*. I found a branch of the tree in question among them, and send you a sketch, taken from Lindley's late work (illustrated), thinking it might give you some further idea, as the name *Cliftonia* seems to be obsolete.

[Nuttall was our authority. Your drawing agrees with his.—Ed.]

MR. CALER COPE's beautiful place was sold, as advertised last month, for seventy thousand dollars—a price below its estimated value, and scarcely the price the land was worth without the extensive green, hot, and grapelouses; and, while we write, the sale of the plants is proceeding. There is something melancholy in the dispersing of such a family of rare and curious productions, of whose prices we may have something to say next month. Mr. Cope has deserved well of his fellow-citizens; his enthusiasm knew no bounds, and his plants and fruits will be greatly missed from our monthly and yearly exhibitions. Let us hope that his successor, Mr. G. H. Stuart, will be equally active and intelligent in the pursuit.

FRUIT.—We have rarely seen so great a display of fruit blossoms as during the past month. Apples, pears, and cherries, promise most abundantly. We had, at some points around Philadelphia, a hail-storm, of a few minutes' duration, on the 15th, but it did little or no damage. As a general rule, though the ground has been wet for the farmer, April has been a propitious month for the gardener, whose labor, postponed to a later period than usual, is likely to be largely rewarded. Strawberries are rapidly approaching perfection in this latitude, and we hope to report on a favorable crop.

THE *Cotton Planter* says of the Herbmont Wine: "Our friend, Dr. Boling, of this city, presented us, the other day, with a bottle of his Herbmont Wine, of the vintage of last year. To our agreeable surprise, we found it fully equal to the very best *bland* Madeira—a perfectly delightful table wine, soft and velvety; the color, a most beautiful amber, with all the aroma of the luscious, highly flavored Herbmont. This grape is one of flattering promise here, for a very superior article of table wine. We hope Dr. Boling will have some of this wine on exhibition at our next State Fair; if so, look out! ye Catawba amateurs!"

DR. LINDLEY appears not to have liked the article from the *London Illustrated News*, which we copied for what it was worth in our April number. He thus scolds the cheats and the cheated in the *Gardeners' Chronicle*, for what might sometimes apply to our own home regions :—

"*People love to be cheated.* There is no doubt about it. Lies are charming; and the greater their dimensions, the more easily are they swallowed. The wonderful, although impossible, carries with it a fascination which nothing can resist. John Bull, under the eye of a mountebank, especially if he comes from a far land, is like a bird under the gaze of a serpent, with this difference, that the bird jumps down the reptile's throat, while the mountebank jumps into Mr. John's pocket. This is a national peculiarity, manifested everywhere, as showmen, quack doctors, patent medicine venders, manure makers, miracle mongers, fortune tellers, political conjurors, joint stock company promoters, and every other sort and form of humbug, know to their profit.

"Such being part and parcel of the constitution of our worthy fellow-countrymen, and the disease in question being absolutely chronic, as the learned would say, it seems useless to put men on their guard against the swindlers who swarm in all directions; as alas! we know it to be. So far, indeed, is naming these gentry from teaching people what to avoid, that they only rush to them the more. Nowhere is this more conspicuous than in the gardening world. The very man who grumbles at paying an honest tradesman a shilling for a red moss rose, will gratefully deposit his two guineas in the palm of the knave who professes to sell him a yellow one. In short, it is only necessary to hire a shop in some London thoroughfare, and circulate handbills, informing the gaping public that the celebrated foreign naturalist and traveller, Herr Chetalsky, has just arrived from remotest parts of the great Tartarian desert, that fertile country never trodden by the foot of man. To the announcement should be added a list of the invaluable natural products brought by Herr Chetalsky, and offered to the public at from one to five guineas each. The list will of course include apples weighing six pounds each; pears as large as your head; strawberries weighing a couple of pounds, and growing on trees whose branches weep beneath the burden—a great convenience to invalids who cannot stoop; cherries bearing ripe fruit every month in the year; asparagus, such as is served up at the table of the Great Mogul, having the valuable property of growing two feet in a day, and requiring neither water nor manure; roses of surprising size, blue striped with yellow, black barred with crimson; tulips the size of punch-bowls; potatoes smelling of Eau de Cologne, a most wonderful property never before heard of, and so on. To this must be added plenty of pictures, said to represent faithfully the novelties in question, executed after photographs obtained by an entirely new process, discovered in the mountains of the Moon. All this prepared and well advertised, the shop will soon fill with eager buyers.

"To simple people, all this must seem an absurd exaggeration; but they are quite mistaken. Announcements quite as remarkable are coolly made in the city of London, in this present month of March, A. D. 1857, and find plenty of believers who joyfully pay their money, and go their way rejoicing."

"A *Simple Contrivance for Transplanting Trees* from place to place with facility," says a correspondent, "without injury to the ball of earth, and that which is of the greatest importance, without lifting the tree from the ground to the carriage, thereby admitting of a much larger ball than usual being attached to it, has long been a *desideratum*. I will endeavor to describe a plan invented by a Mr. Thomas, a very intelligent landscape gardener, which combines all the requisites, and has been used in this neighborhood with great success and satisfaction to all parties. Take a sheet of iron four feet square and one-eighth of an inch thick. We must suppose one side to be the front; on the front, therefore, rivet

two strong iron staples, one near, but not close to, each corner. These staples must be cleft to admit and embrace the iron sheet; rivet also two staples behind, so that a horse, or two or three men, may, by means of ropes, drag the contrivance on either side. The tree is to be placed upright on this iron sheet, and fastened to it by cords passed through the four staples; it can now be dragged over the ground without any shaking, and as it slips over the surface without much labor, and as no lifting has been required to place the tree on the carriage, very large balls can be conveyed with the tree, thus lessening the risk of moving."

HINTS ON BEDDING OUT.—As the time for planting the bedding out plants, where they are to form the great display of the flower garden, has arrived, it cannot be too strongly urged upon those who have this work to do, that system in arranging the colors is absolutely necessary to complete success. It ought to be no satisfaction to an amateur or professional gardener that his grounds look well, while it is plainly seen they might have looked better. Those who have paid attention to this part of the gardener's business, must have often noticed that different artists produce very different effects with the same plants, and this will be found to arise more from the judicious arrangement of the colors than from any other cause. A flower garden may be richly furnished with plants, but be very ineffective, if the colors are badly arranged, and, unfortunately, this subject receives very little attention generally, although nothing can be more important. Thus, what can be more beautiful than some of the yellow calceolarias or white verbenas? but place the two sorts together, and the pure white of the verbenas is destroyed. For producing brilliant effect in masses, reject particolored flowers; such are never effective. Use pure and decided colors, such, for instance, as pure white, scarlet, deep purple, bright yellow, good blues, &c.; also take care not to mix plants which are of a doubtful duration when in bloom with those of a more permanent character. The prevailing system of edging beds with contrasting colors, imparts a highly interesting feature; for instance, a bed of scarlet geraniums edged with white alyssum, or manglesii geranium, with the flower buds taken off as they rise, or the yellow calceolarias edged with blue lobelias, have a good effect. Those which are in close affinity kill each other.

J. B.

CONCORD GRAPE.—A valued correspondent writes: "If I were confined to but one grapevine, it would certainly be the Concord."

A GOOD POTTING-BENCH PRACTICE.—This is a quick and pleasant way of shifting a plant without disturbing tender roots, and endangering a loosely-held-together ball. I have used it for years, and in some cases it is invaluable.

Place the new pot before you; crock it, drain it, moss it, and bottom it with soil as in the usual way. Now take the plant in its old pot, and place it bodily on the bottoming of the new pot; fill up the space between the inner side of the new pot and the outer side of the old one, using the potting stick or your fingers, as the case may require. Now take out the old plant, pot and all, and you will have a beautiful mould or matrix, a little larger or smaller than the ball of your plant, according to the depth in which you potted the old pot in the new one. Now turn out the ball, pop it into the hole, press it down, and the thing is done. If the rim of the old pot is kept a trifle higher than the rim of the new, the ball will generally fit. This part will depend on the operator. I can only describe the operation.

A PRACTICAL FRIEND.

MR. H. W. SARGENT, of Wodenethe, has sent us an excellent article on the state of his various evergreens this spring, which shall appear in our next.

IRRITABILITY OF PLANTS.—“In alluding, incidentally, so much to cleanliness, I give it,” says an eminent writer, “a prominent place in the elements of success. A great point is gained when we come to look upon a plant as an organized existence very different from a clod or a stone, and with powers of irritability frequently approaching that of sensation in animals. I have seen many gaze in wonder at the mysteries of the Sensitive Plant (the *Mimosa pudica*), whose leaflets droop at the slightest touch, and from that day become more earnest and careful cultivators. I have seen dozens of boys and girls watching the leaflets of various Acacias, the *Cassia corymbosa*, and even the common French Bean, folding back and going to sleep at night, and I have been assured that they in future experienced a love and a sympathy for plants which they never felt before. When we find our young people talking of the shaking vagaries of the side leaves of the *Hedysarum gyrans*, while the terminal leaflet alternately rouses itself into wakefulness, and then lulls itself again to drowsy repose; when you hear them making out lists of flowers that open and shut at certain hours and in certain states of the atmosphere, some at mid-day, and others at midnight, or of others that throw off their perfume in compliment to the sun, while others hoard up such treasure in honor of the stars and moon; when you hear learned discussions on how mineral and vegetable poisons exercise a similar and as destructive an influence upon plants as upon animals; and when you listen to expressions of delight at the beautiful harmony and reciprocity existing between the vegetable and the animal world, then, indeed, may we expect to see beautiful plants more generally in windows, and the culture of them attended with a charm and an interest never formerly known.”

ROASTED GOURD-SEEDS.—It is only partially known that the roasted seeds of many of the Gourd tribe furnish an excellent addition and nice variety to the dessert, particularly those of the *Cucurbita pepo gigantea*, which produces seeds in abundance, possessing an agreeable nutty flavor.

AMICUS.

NEWPORT.—A few lines from Newport thus speak of the late winter: “Our evergreens look sadly brown and red, but I think they are not seriously injured. This has been the most severe winter ever known at Newport.”

A NEW work on French fruits, called “Le Jardin Fruitier du Muséum ou Iconographie de toutes les Espèces et Variétés d'Arbres Fruitières cultivés dans cet établissement, avec leur description, leur histoire, leur synonymie, etc.,” is announced in Paris, from the pen of the eminent botanist, M. Decaisne. It is to appear monthly, in small quarto, each number containing four colored plates, price five francs. Pears are to be taken first. M. Decaisne announces his intention to sweep clean away such vulgar (*banale*) names as Beurré, Colmar, Bergamot, which he says have lost all meaning, and he will propose one name only for each sort of pear, to the exclusion of the crowd of names now producing chaos everywhere. Let us hope that the intended revolution will not end in worse confusion still.

At a late London horticultural exhibition, there was a large piece of the root of *Aralia papyrifera*, which Mr. Fortune brought over to show how the Chinese make their rice paper from it; but why they call it rice paper, is best known to themselves. The pithy part of the root is so thinly sliced by the Chinese as to resemble paper, which they make into ornaments, and which they sell much cheaper than our cheapest paper. There was also a plank of Beech, to show how the soft and inferior woods may be impregnated with a solution, to render them as durable as the best Oak. Some fine drawings of new Orchids, from Mr. Linden, were on the table.

PROPAGATION OF FISH.—Cleveland (Ohio) has the honor of producing an original work of very great importance to this country, on a subject that has frequently been noticed in the *Horticulturist*. The title is: "A Treatise on the Artificial Propagation of Certain Kinds of Fish. By Theodatus Garlick, M. D." In conjunction with Dr. Ackley, the experiments have been carried on till a treatise, every way worthy of the subject, is presented to the American public; so plain in its statements, that no one can misunderstand them. This handsome octavo deserves to be very popular, and that its topics may be *practically* studied, must be the wish of every lover of his country.

Horticultural Societies.

HARTFORD COUNTY HORTICULTURAL SOCIETY.—The following are the officers for the ensuing year: *President*—WILLIAM W. TURNER. *Vice-Presidents*—Dr. G. W. RUSSELL, Dr. J. S. BUTLER, H. W. TERRY, Hartford; HENRY MYGATT, Farmington; CHAS. L. PORTER, East Hartford; N. W. STANLEY, New Britain; NORMAN PORTER, Berlin; SALMON LYMAN, Manchester; E. A. HOLCOMB, Granby; Dr. H. A. GRANT, Enfield; S. D. CASE, Canton; SHELDON MOORE, Kensington; T. C. AUSTIN, Suffield. *Recording Secretary*—D. S. DEWEY. *Corresponding Secretary*—T. R. DUTTON. *Treasurer*—P. D. STILLMAN. *Auditor*—H. L. BIDWELL. *Standing Committee*—WM. F. TUTTLE, SETH H. CLARK, GEO. BRINLEY. *Committee on Fruits*—W. F. TUTTLE, M. C. WELD, GEO. BRINLEY. *Committee on Flowers*—D. S. DEWEY, E. GOODRIDGE, JAS. STEBBINS. *Committee on Vegetables*—C. T. WEBSTER, N. HOLLISTER, J. H. GOODWIN.

PENNSYLVANIA HORTICULTURAL SOCIETY.—A stated meeting of this Society was held at Concert Hall, on the 20th of May. The exhibition of plants, fruit, and vegetables, was quite large; of the latter, Mr. A. L. Felten and Mrs. Wetherill's gardener made a beautiful display, and both received premiums. Mr. Felten also received the first premium for the best asparagus. The collection of greenhouse plants from Mr. Anspach, and grapes, received premiums. E. M. Davis received a special premium for apples, in a fine state of preservation, and one was given to Geo. Lasenby for delicious looking pine-apples.

Calendar of Operations.

JUNE.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

JUNE is a busy month with the vine-dresser. *Tying up, pinching in, keeping the weeds down, and watching insects*, require prompt and careful attention.

During the latter part of May, and in all this month (June), the growth of the vine is very rapid; and such of the young shoots as are left, after thinning out the superfluous ones, require to be tied up to the stakes carefully, that they may not be broken off by high winds. Rye straw, wet, and cut to the length of about two feet, will make good ties. Some use strips of muslin, or other material (such as the threads of old coffee bags), and, when no better can be had, the stalks of blue-grass; but rye or wheat straw is the best. Take two or three straws, pass them round the branch and the stake; then twist the ends, and fasten them under the band as a sheaf of wheat is bound up. This tie is very simple, and made quick.

All superfluous shoots from the axils of the leaves, and suckers from the chain stalk or stem, should be removed with a knife, and the ends of the fruit-bearing branches pinched in, two joints beyond the last bunch of grapes. The judicious vine-dresser will soon learn to leave sufficient wood and leaves to sustain and nourish the crop of grapes, but not to permit it to be smothered by an overgrowth of either.

Light and air, to ripen the crop, is essential. Be careful to train two good canes or stalks for bearing wood next year; of course, these must not be pinched in, but let grow to their full extent, tied up to the top of the stake, and trained over to the next one.

The *weeds* may be kept down with the hoe or a short scythe, but ploughing or stirring the ground in the vineyard, this month, is not recommended.

Watch insects that appear to be injurious closely, and destroy them. They should never be permitted to increase in the vineyard.

Early in this month the *mildew* may be looked for, if it has not occurred late in May. It appears after a sudden change in the weather from warm to cold, or after heavy cold fog. Should the young grapes escape this enemy, and too many bunches remain on the vine, it might be well to pinch off the weakest, leaving only about fifteen to twenty bunches on a vine. This is as much as vines of six to ten years old ought to be permitted to bear, without permanent injury to their future growth.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—The beneficial effects of mulching to transplanted trees is well known, and very generally practised. Its effects in the vegetable garden are no less striking. The mowings of short lawn grass, rakings of leaves, &c., thrown around and over the roots of egg-plants, or between the rows of peas, and other crops, will be found of great service during dry weather. Previous to applying it, the soil should receive a deep hoeing, or forking up; if covered immediately afterwards, surface evaporation will be retarded, and the bad effects from heavy rains dashing on the surface prevented. Green vegetable matter, when used as above, should be spread very lightly; otherwise, injury may result from fermentation.

Thin out the rows of beets, carrots, parsnips, &c., as soon as the crops are fairly advanced; nothing is gained by deferring the operation too long, but much loss if the plants are crowded, as they will grow weak and slender; thin them to stand six inches apart.

Asparagus beds ought to be kept clean. Young plantations should not be cut very severely, as it will weaken the plants. The green portion only of this vegetable is fit for use: there is no occasion to cut below the surface with a view to getting it white. It is strange that white asparagus should ever be brought to market, and stranger still, that horticultural societies should award it a premium in preference to equally well-grown *green* samples. Water with salted rain-water, in the proportion of two ounces of salt to a gallon of water; this is preferable to sowing the salt over the plants.

GREENHOUSE.—Set a few of the finest *calceolarias* aside, to save seed from, and water them occasionally with liquid manure. *Geraniums* in flower will require more water than at any other time. A slight shading will help to preserve the blooms. *Primula* seed for early winter flowering plants, should now be sown. Do not take any of the hard-wooded choice plants out of the house until their growth is well advanced. *Heaths*, *epacris*, *leschenaultias*, *pimeleas*, &c., do as well in the house until August. Put in cuttings of *chrysanthemums*; those that are potted should be well pinched down for the next six weeks, in order to have bushy, well-flowered plants in the fall. Put them in 8-inch pots, to flower; stand them out in the sun, and keep them regularly supplied with water. The small flowered kind are beautiful pot plants. Put in a few *heliotrope* cuttings for flowering early in winter. *Achemenes*, *gloxinias*, *gesneras*, &c., will now require attention in potting and tying out; for such as *Achemenes coccinea*, *A. longiflora*, and *A. rosea*, a few twigs of any kind form the best means of support. A moist atmosphere is indispensable for the perfect growth of these plants. The dwarfest kinds do well in hanging baskets. Admit air chiefly by the top ventilators; when both top and bottom ventilators are open, it is scarcely possible to keep a sufficient degree of moisture in the air. Let the ventilators remain open all night, unless the thermometer ranges below 45°.

FLOWER GARDEN.—Herbaceous plants should receive more attention. *Verbenas*, *petunias*, and *heliotropes*, are all very beautiful, but not more so than *Dielytra spectabilis*, *Campanula grandiflora*, and *C. nobilis*, *Delphiniums*, *Dianthus*, *Digitalis*, *Cenothera macrocarpa*, *Lobelias*, *Mimulus*, *Penstemon*, *Phlox*, *Aquilegia glandulosa*, and many others that could be mentioned. These being all hardy, do not require to be removed or replaced yearly. *Hollyhocks* must not be forgotten; the improved double varieties are very beautiful.

PLEASURE GROUND AND LAWN.—Frequent mowing is necessary to preserve a neat lawn; mow it when damp, and clean the cut grass thoroughly off with the patent grass rake. Lawn mowing machines are now constructed which economize labor, and leave a beautiful surface. Lately planted trees should be secured from swaying about in the wind; they will grow better if the soil round their roots is kept clear of weeds. Trees fairly established do not require this treatment. It destroys the harmony of the lawn when the grass does not grow close up to the stems of the trees and shrubs. For the same reason, all grass edgings should be kept low; nothing is more unsightly than deeply cut edging to roads and walks, although they should in all cases be well defined and neatly trimmed.

A Trip to Cuba and the Southern States, No. 2.

"It is a goodly sight to see
What Heaven hath done for this delicious land!
What fruits of fragrance blush on every tree!
What goodly prospects o'er the hills expand!"



ARELY did we meet with an American just landed in Cuba who was not highly delighted with the place and the climate. The general first impression was to make a purchase, and settle down for the winter in this charming sunshine. This impression lasted for about two weeks with most, while others remained true to the first feeling of these "new-born delights," and one or two of our casual acquaintances actually effected purchases. Generally, however, discoveries were not slow in being made that the difficulties of the language, and the habits of the people, with certain fears for the future aspect of political affairs, the necessity of a license to reside there—all these mostly disenchanted us before we had seen much of the island.

The fruits, the perpetual summer, and less oppressive weather than we had been led to expect, were all great inducements; added to this and the low price of land where it had plenty of fruit but no slaves upon it, was the vicinity to home, tolerably regular mails, and some American society. The habits of the people, so different from our own, came in last as the final discouragement, but Cuba seems to have been designed for the winter residence of the Northerners, and such, if it is acquired, it will unquestionably become. Climate is virtually capital, not only in the easy production of animal, but vegetable food; for instance, the banana, which is estimated to yield 4,000 pounds of nutriment on 1,076 square feet, enables a man to maintain a family by working very moderately for two days in seven, the produce of the plant being one hundred and thirty-three times more than that of wheat, and forty-four times more than the yield of the potato, exceeding, as Humboldt supposes, all plants upon the globe in the amount of food it yields on a given area.

Linnaeus said that the first abode of our species was the region of the palm, and that man is essentially *palmiverous*. It may be, that the races in these *palmiverous* regions are not the most progressive, because, though climate is much, race is more. The balmy and the spontaneous fruits of Paradise, would probably fail to energize some races of



ROYAL PALM.
Sixty to eighty feet high.

our own continent. But, again, is it not true, that the eternal war against climate, prolonged winters, &c., consumes as large a portion of man's labor as an annual

conflagration? and may we not hope that, while the Anglo-Saxon in the tropics, though he might work less in such an atmosphere, would enjoy more, and with the untiring energies of his mind devote more time to his improvement, and as nearly as he could, realize the greatest happiness he is capable of? The problem has never been fairly tried; it is destined to be, however, and, so far as such an experiment is desirable, we are inclined to be a fillibuster, though no further.

The rapid strides of our steamship as she glided past the Moro, the Punta, and Cabanas batteries, again found all hands on deck, at early sunrise; the realization of all our anticipations was quite equal to the scene our excited imaginations had conjured up, but words fail to convey such impressions, and we pass on to the full view of Havana. Its antique architecture—its mixture of grandeur and poverty—its cathedrals and churches, gloomy,

Palm of the low grounds near Trinidad,
with the flower stalks.

and worn by time—its Moorish arches and peculiar roofs—contrasted finely with the trim shipping of all nations lying at anchor in great numbers in its noble and safe bay. The opposite villages of Casa Blanca and Regla (the sugar depots), had more of a home look, and we felt the American spirit near us when the several new steam ferry boats, exactly like our own, came paddling along.

We were soon surrounded by anxious but good looking faces, desirous to convey us on shore, but the irregulars were commanded to *vamos*, and we were soon grouped into parties, descending into large boats under the wings of the various hotel keepers whom we had solicited to take charge of us, all such establishments being well filled. A dollar for an indorsement of our passports, which allowed us as a favor to reside on the island for a month, discovered the fact that our money was at a discount of ten per cent. with these officials, and, in regular commercial dealings, of five; our own dimes, however (the latter being the general currency for small transactions), pass for a ride in a volante, &c., as well as a quarter of a dollar.

Our party patronized Wolcott's Hotel, where we were very uncomfortable, at a nominal charge of three dollars and a half a day, but which, with etceteras, was generally nearly double that sum. The other houses are not much better, except Mrs. Almy's, where Dr. Kane expired, and which, though rather low in the front elevation, is a most comfortable hotel, well conducted, and, consequently, difficult to get access to by the new-comer, who finds all the rooms occupied. The Havana table presents some novelties that are striking; bananas and plantains, fried in sweet oil, take the place of potatoes, and for desert, oranges, bananas, and other fruits, with guava jelly. The winter vegetables are those of our midsummer, including tomatoes, peas, egg-plants, &c. &c.

The *Plaza de Armas*, in front of the Governor-General's palace, is well planted with flowering shrubs, and in the centre, are four Royal Palms, of considerable height. When this scene is lighted up of a moonlight evening—the bands playing, and the whole population assembled (the ladies in full dress, in their volantes, and the gentlemen stopping to smoke, admire, and chat with them)—the entire scene is one of those Oriental, and yet European pictures that can only be seen under the tropics, and alone would pay for a trip to this far away and fairy island.

The *Cupidon*, a glorious hybiscus with rosy red blossoms, makes a great show in the Plaza. The Mango-Tree, which greatly resembles in form the Horsechestnut, is one of the best shade trees of the island, and here must be noted the new fact to us, that scarcely any person ever plants a shade tree near his dwelling; the sea breezes from either ocean are found to be better than shade. In this respect, the residences of the wealthy have to us an unimproved aspect, which it is hard to reconcile with wealth or even comfort. The Cocoa-Nut and the Royal Palm are, however, incorporated in every scene on the cultivated portion of the island, and one never gets tired of their beauty.

The reader will suppose that, after a glance at the town, peeling numerous oranges, and being astonished at the novel fruit and wonderful fish markets, we at once began to sally out among the gardens, plantations, and trees. But how to describe what is so novel! The difficulty is appalling, and, in a limited space, impossible; impressions only can be attempted. Sir J. E. Smith, the eminent botanist, strikingly remarks that "no writer whatever has rendered the natural productions of the happiest and most luxurious climate of the globe half so interesting or instructive as Linnæus has made those of his own northern country." This is eminently true, and it remains, as far as we know, a delightful task unfulfilled, to convey by means of the pen, the grand ideas which tropical vegetation, and its accompanying scenes, naturally call forth. But it must be remembered, that all is not beautiful. It had been one of our ambitions to see an Aloe hedge,* and to ride along roads bordered with our greenhouse plants. Alas! a hedge of Aloe is but a sorry sight; it is grown up and over with a thousand other plants and vines running riot in wild neglect, and really presenting little or none of the beauty we had anticipated. The Cherokee Rose about Natchez, is ten times more beautiful, and yet, with care the Aloe would make a superb fence; and *it is* a most useful one, but it occupies a large space that would otherwise be converted to profitable cultivation. All the energies of the landholders seem to be given to the cultivation of sugar, coffee, or tobacco. The ornamental, where beauty would spring up from every touch of taste, forms but little of the studies of the Cubans; but, even with their utter neglect, as a general thing, nature and the climate assert their supremacy. At every turn, some new surprise awakens the imagination, and obliges us to remember that we are in one of the richest botanical regions of the globe. But these riches are unappreciated, and as for our greenhouse plants being seen at every step, you find yourself in a region where they are too common to be admired, except by the *very few*.

A short ride on the Paseo (the afternoon drive of all that can afford to keep a volante) brings us to the Governor-General's garden, lately invaded by the railroad, but possessing some beautiful plants and superb vines. Orange-trees in full bearing and in flower, the *Mammea* and Sugar apples hanging on the trees all winter, and hundreds of novel specimens, would occupy a person of leisure for weeks. The botanical knowledge of the most scientific is put to an immediate and trying test in Cuba. Recognition is attempted as visions of dried herbariums float on the memory, but in general, all our party, after puzzling themselves for names, gave it up as a labor which took too much from the zest of the feast spread before us; and it was no uncommon thing for the *savan* of the party to be seen placing his specimen carelessly in his pocket, while he accepted a basket of oranges, or a bunch of bananas, or watched the *tearing-up* process, employing forks instead of knives to the pine-apple. For the purposes of study, we all determined to repeat

* The hedge most used is of the Pine-Apple family, *Bromelia pinõn*, of Spanish botanists.

Count Fernandina's garden, on the Cerro Road, a short distance from Havana, is the best worth visiting of any that we could hear of, and is accessible to all strangers. It occupies but a few acres, in the English style. The *Araucaria Braziliensis* is one of the most striking trees; it has attained a height of about twenty feet, and forms of course, a magnificent object. There is almost a total absence, in Cuba, of coniferous trees; what we call "evergreens" are not required, because they have broad, shining-leaved trees that are evergreen, which they value more highly. There is a very fine collection of palms here, including the fan-palm and one with a frond at least six feet in length. The Caoutchouc, or India-rubber tree, is also a great ornament, and attains considerable height. The Copaiba-tree and the Mahogany here first strike the eye, though common on the island. This garden is kept in the highest order, and is a grand treat to the eye. Amid the palms, the old Count has built a most sumptuous cold-water bath—quite good enough to enchant Juno, or to lave the beauties of Calypso. It is entirely lined with exquisite tiles, and the walls of the building are frescoed with mythological legends; the steps to the water are of the finest material; the colored glass of the windows throws a red tinge upon the skin, and the faultless transparency of the water tempts the eye.

The house is in elegant taste, filled with European specimens of the fine arts, and luxurious furniture; hanging baskets on the inclosed piazza, look like civilization; various colored Thunbergias run riot over the lattices, of a strength and size unknown to us; and altogether, this is one of the best garden experiences to be had in Cuba; it is laid out in perfect taste, with English gardenesque effects much increased by tropical advantages. The Count is a widower, and rarely resides here. His income is perfectly beyond one's conception; they say, three thousand dollars a day! His nephew, who had been implicated in some political transactions, we found at Natchez, Mississippi, teaching Spanish to a small class, while the uncle or the Government have clutched his purse-strings, and refuse him a dollar. The name of this most gentlemanly exile is Don Manuel de Santa Cruz, and his title, by inheritance, should be Count Fernandina, Jaruco, and Mopox; he was for eight months confined in the Moro, from which he most ingeniously escaped. There is a "skeleton" even in palaces.

The Climate.—We were fortunate in obtaining a record of the thermometer, carefully kept on a plantation very nearly in the latitude of Havana, and fifty miles from it. This record is for twelve months, excepting April, when the glass was broken; the first record is April 30, 1856, the hour of observation being between twelve and one o'clock (noon), which it will be well to remember.

[illegible]

		THERMOMETER.
Average of June	.	86°
" " July	.	88½°
" " August	.	88½°
" " September	.	85½°
" " October	.	83°
" " November	.	81°
" " December	.	80°
" " January, 1857	.	75°
" " February, "	.	75°
" " March	.	80°

In January and February no fire was required, and Americans wintering there wore nothing but thin clothing.

The equability of the above averages of the thermometer at noon, so different from our own, will strike every one. Rarely does the record show the height to exceed 90° till after the first of June, and then it reaches above that height more rarely than with us, and the changes during the intervals from noon to noon, are rarely even great enough to call for a change of clothes.

As a winter residence, and as an easy means of escaping the worst periods of our northern colds, Cuba presents great attractions, and will soon be a necessity to the wealthy and the invalid.

An American Boarding-House in the Country.—In connection with this subject, it may be well to remark here, that it is a great object to visitors to reside in the interior, and thus have an opportunity of visiting familiarly the sugar and coffee estates, and examining the trees and cultivation. All can scarcely hope for introductions to resident country families where they could be thus domesticated, and, if they could, the bar of language would mostly prove a great drawback. To obviate this difficulty, Mr. L. Monson, an American, has opened a country boarding-house near the El Carolina station of the Matanzas Railroad, and, to be brief, his is the Carolina House, purporting to be kept in American fashion. The dwelling was framed in the United States, and has glass windows, in our fashion, and the spot was formerly a coffee plantation; has good fruit-trees, shady avenues, and much to admire in the way of vegetation and scenery. If Mr. Monson succeeds in getting a good housekeeper and a gardener, as he intends to do, this will be a most desirable winter residence. It is near a post-office, riding-horses are at command, and the distance from Havana not an objection.

The Rainy Season.—Most persons who read of "the rainy season" in the tropics, have probably an erroneous opinion of the duration of the showers. Residents in Cuba assure us that the expression is a misnomer as we understand it, at least, and that it is used only in contradistinction to the season of little or no rain, when vegetation is sustained by the dampness of the air. Our record, carefully kept by Mr. Monson, includes the number of showers for the six months, embracing from July 1 to December 23, with the assurance that these rains were of brief duration generally, commencing about noon, and followed by a bright sunshine nearly always:—

July,	1856	.	Thirteen showers of an average of half an hour.
August,	"	.	Showers on ten days.
September,	"	.	" " eighteen days.
October,	"	.	" " seventeen days.
November,	"	.	" " four days.
December 2 to the 23d,	"	.	Light showers.

An uncommon drought then set in; such being rarely known, visitors to the island the past winter saw its vegetation to a disadvantage, beautiful as it was,

and enjoyed less fruit in consequence, though we could judge of no diminution, except in the pine-apple. The sugar-cane was not so tall as usual, but this was compensated for by an increase of saccharine matter in what growth there was.

Judging from the above records, even the summers are not at all unbearable; persons not obliged to move about in the sun when at its warmest, might pass the summer here nearly as comfortably as in our own climate, and more so than in many of our principal cities. The health, too, is as uniformly good as in the States, the yellow fever rarely penetrating to the interior. Living always in the open air must conduce to healthy action; the drawback is probably found in the *absence of changes*, which impart a zest we perhaps undervalue at home.

Tobacco.—Respecting this popular article, and its manufacture of cigars, it may be expected, in our rambling notes, that we should say a few words. It is well known, that the tobacco plant is the product of but a small portion of the island—the southwest. A person confining himself to short rides from Havana, and to the vicinity of the railroads, would see about as much of the weed growing as he would in Pennsylvania or Connecticut, the soil in the other parts not being more propitious to the flavor than that of our own country. Good tobacco is thus a dear article, and becoming annually more so as the cultivation recedes from the great mart by the wearing out of the land, which is the case yearly. Formerly, the tobacco lands were about eighteen miles from the city; they are now at least one hundred and fifty miles distant. Large dealers in cigars make their own bargains for the crops of the extensive cultivators whose tobacco is known to them, and thus acquire a kind of monopoly of the best; smaller operators endeavor to have as good an article, by assisting the grower to new lands, and taking an interest in them. The consumer of a few thousand cigars, watches his opportunity, and when sure of a good seroon or two, purchases, and conveys it to his own house, where it is manufactured under his own eye, from a known article, and therefore to his taste. The cigar maker comes to him for a week, more or less, and charges by the thousand.

In addition to these plans, varied with the various degrees of enterprise and capital embarked, there may be seen, all over Havana, blacks and whites most industriously employed in rolling cigars; and, ten chances to one, if you stop at a posada in your rides in the neighborhood, however humble, there will be found, under a shed, or in some corner, a parcel of dark looking fellows similarly engaged; and yet, with all this industry, it is still a wonder whence proceed all the millions of smokable cigars which perfume the civilized world. Their source is to be sought for in out of the way places, in garrets, and private domains, which are out of sight, and which are delivering more or less, daily, to the great dealers who supply the capital and the raw material. Cigaritas are made by women and men who can follow at the same time another employment, such as keeping watch at the door of a hotel, &c.

Numerous small manufacturers sell their article at a low figure to the great dealers like Partigas, or the Cabanas' houses, who subject them to a rigid picking; the *best looking* on the outside, and which may have cost in the unpicked state, ten dollars per thousand, are number one, and will be charged to the unthinking American customer who looks only to the external appearance, at fifty dollars, the seconds at twenty or thirty, and the cullings will find a market at about the original price; so that one man smokes, at six or seven cents, the same tobacco exactly that better informed and more economical people get for one cent. The reputation of the (nominal) maker has much to do with the price, and this reputation, as in a thousand instances in all countries, is kept up by *outside appearances*. When a particular brand, size, and shape, have become popular in any country,

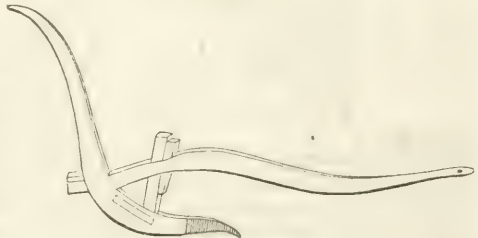
strong efforts are made to keep up this appearance, and a simulated article has to be resorted to the moment the demand exceeds the supply, which is always limited. Then come the various methods of deception; the wrapper must be exact in color, and it is dyed; the shape must be the same, and the maker skilled in this particular form must have a higher price, or he will go over to a rival house.

Instances of these kind of difficulties are constantly related, and an employer has frequently to advance large sums to his best workmen, to keep them in good humor; when this quality fails them, the rival will pay all they owe, to get them into his workshop, the best makers being always in demand, and earning from two to six dollars a day, according to their skill.

The leaf requires to be in a particular stage of moisture, to work to advantage, and you may see, as the evening hour of closing the factory comes on, the master mind is dropping or sprinkling his leaves, and laying them out all over the room in various proportions, according to ascertained necessity. And here another process is resorted to; this is of course the moment for dyeing the wrapper; but it is also the opportunity embraced to *flavor* what is to constitute the interior; a popular brand must be kept as nearly as possible of one *taste*; as in wine, it is easy to deceive in this particular, and the *filling* is immersed in a solution of other tobaccos, made to resemble as nearly as possible the flavor required. Thus, a good tasted crop will flavor a whole invoice of cigars very probably manufactured from Virginia, or tobacco imported from some other island. This is done in wines of all countries, and it is surely as fair a transaction in cigars.

Cigar making is a profitable operation, though it may be deemed of inferior importance to the sugar crop. Both combined have made money extremely abundant during the late season of high prices. Eight millions of specie arrived in Havana in March alone, and the rate of interest was but two per cent. per annum; new banks were going into operation on a speculative scale, and it was seasonably argued that cash so easily collected as it was, would lead to the ruin of many now called wealthy. Cuba has its revulsions as well as New York and Philadelphia.

The cultivation of the island is slovenly in the extreme. There is often as much difficulty experienced in ploughing the land as in a new clearing incumbered with stumps in the United States, from the underlying coral rock; our own ploughs are occasionally introduced, but the inhabitants give the preference to the annexed singular and awkward implement. The horse, ox, or mule, is geared to the end of the long shaft by a chain, and how the apparatus is made to scratch a little furrow, is a mystery to the uninitiated.



A Cuban plough!

EVERGREENS IN THE SPRING OF 1857.

BY H. W. SARGENT, WODENETHE, NEAR FISHKILL LANDING, N. Y.

IN reply to your desire to know the effect of the past winter upon the newer Evergreens, I regret I shall be compelled to give you an unsatisfactory result.

A winter so unprecedented in its character as that of 1855-6, followed so im-

mediately by one even more severe and continuous in its cold, as the one just past, could not fail to be everything that was disastrous.

In addition to the excessively low temperature, we have suffered (both winters) from severe and chilling storms of rain and sleet, which completely covered the trees with ice, breaking them down, and doing immense damage. This, in connection with two such winters, has thrown out quite a large number of Evergreens, which, up to 1855, I was more than tolerably successful in cultivating. For instance: Both Cedars of Lebanon and Deodar Cedars, which have, under our preceding winters, gone through without even browning, and attained a size of twelve to fifteen feet, have, in the case of the Cedars of Lebanon, become annually deciduous, and, with Deodars (which are unquestionably less hardy), been cut down to the level of the snow-line; so also with *Abies Morinda*, *Douglasii*, *Cephalonica*, *Pinsapo*, *Menzesii*, and *Picea Webbiana*. They have all this winter lost their foliage, though the bark is good, and the buds plump and green.

If, consequently, our winters are to assume in future the character of the two last, our list of Evergreens which can be depended upon, will be of course much reduced. If, on the contrary, these extraordinary winters are only to appear occasionally, there are many additions to the list which would survive and even flourish, with only one or two severe winters to five or six fair ones. Upon the first supposition, I think I can say that the following are perfectly hardy without protection, even in such winters as the two past:—

FOLIAGE UNTOUCHED—

Pinus *Lambertiana*,
 “ *Ponderosa*,
 “ *Sylvestris*,
 “ *Sylvestris pumila*,
 “ *Strobus*,
 “ *Strobus nana*,
 “ *Pumilis*,
 “ *Austriaca*,
 “ *Excelsa*,
 “ *Monticola*,
 “ *Benthamiana*,
 “ *Cembra*,
 “ *Gerardiana*,
 “ *Pyrenaica*,
 “ *Brutia*,
 “ *Halepensis*.

UNTOUCHED—

Picea *Pectinata*,
 “ *Pendula*,
 “ *Balsameana*,
 “ *Balsameana folis variegatis*,
 “ *Pichta*,
 “ *Fraserii*,
 “ *Nobilis*,
 “ *Nordmaniana*.

FOLIAGE UNTOUCHED—

Abies *Clanbrasilensis*,
 “ *Elegans*,
 “ *Pumila*,
 “ *Compacta*,
 “ *Pygmæa*,

FOLIAGE UNTOUCHED—

Abies *Hudsonii*,
 “ *Orientalis*,
 “ *Alba*,
 “ *Nigra*.

GOOD, BUT BROWNED—

Abies *Menzesii*,
 “ *Cephalonica*,
 “ *Pinsapo*.
Juniperus *Suecica*,
 “ *Communis*,
 “ *Pendula*,
 “ *Bedfordiana*,
 “ *Chinensis*,
 “ *Hispanica*,
 “ *Prostrata*,
 “ *Nana*,
 “ *Tamaricifolia*,
 “ *Sabina*.

Thuja *Orientalis*,
 “ *Occidentalis*,
 “ *Aurea*,
 “ *Aurea Americana*,
 “ *Siberica*,
 “ *Plicata*,
 “ *Tartarica*,
 “ *Nepalensis*,
 “ *Filiformis*.

Widringtonia ericoides,
Torreya taxifolia,
Cepholotaxus Fortunei (male and female),
Thujeopsis borealis.

All the above have passed the two last winters, and many previous ones, most successfully, without losing leaf or bud. To these may be added others, which, though having lost foliage, the buds seem generally good; such as—

Pinus Ayacwhuite,
 " Montezuma,
 " Macrocarpa,
Abies Jezoensis,
 " Pindrow,
 " Webbia,na,
 " Smithii,
 " Douglasii.
Cedrus Libani,
 " Deodara,
 " Africana.
Cupressus Thyoides,

Cupressus, *Folis variegatis*,
 " *Horizontalis*,
 " *Funebri*s.
Saxe-Gothæa conspicua,
Fitz-Roya Patagonica.
Taxus Baccata,
 " *Hibernica*,
 " *Elegans*,
 " *Elegantissima*,
 " *Dovaston*.
 Yellow-berried, Japonica, and Adpressa.
 Chamæcy paris, speroidea variegata.

And thirdly, the following have stood perfectly well in an Evergreen wood where they got little or no sun :—

Cryptomeria viridis,
 " nana,
Araucaria imbricata,

Deodara nana,
 " viridis,
Cunninghamia sinensis.

It is not desirable, perhaps, for me to mention the complete failures, of which *Libro-Cedrus Chiliensis* is one, and I am afraid the Pampas Grass is another—at least, it has not yet shown signs of life.

In conclusion, I will mention, among the newer things which promise well, the White and the Violet Wistaria, the Kilmarnock and Rosemary Leaf Willow, and Weeping Amelanchier, of which Messrs. Ellwanger and Barry have fine specimens. And among the *untried* Evergreens—

Cupressus Torruulosa,
 " Tournafortii,
 " Lusitanica (Cedar of Goa) ;
 beautiful.
 " Macrocarpa.
Pinus Jeffreyi,
 " Californica,
 " Tuberculata,
 " Patula,

Pinus Nivea,
 " Palustris.
 " Calabriensis.
 " Spiralis.
Juniperus Californica.
Thuja Macrocarpa,
 " *Washingtonia gigantea*.
 " *Decurrens*,
 " *Doniana*.

VISITS TO COUNTRY PLACES.—NO. 11. AROUND BALTIMORE, MD.

In passing through Baltimore one morning, we stopped by invitation at the town garden of Thomas Winans, Esq., one of those extraordinary residences which seem to the passer as if the town had grown around and inclosed a rural home, which was only bounded by the needful streets that had been run through by those delectable corporations called City Councils. But, on the contrary, Mr. Winans has pulled down a small village to make a *rus in urbe*, and, in some respects, it is the most remarkable town residence in any American city. As we should say in Philadelphia, it now occupies about as much space as one of our squares, but additional houses had been lately purchased, and they were also to be demolished, to make room for grass and graperies. The usual order of things is here reversed.

As you pass the place, the natural inquiry is, what prince or royal personage lives here? The answer is made by the owner himself—a self-made American artisan (and well may he be proud of the title), is the designer, and owner, and occupier.

Thomas Winans, Esq., in some way connected with the steam-engine business

or railroads, got a look into the purse of the late Emperor of Russia, and he ever since has looked upon gold instead of iron; this is reflected in various improvements on this town square, and we see, as we pass round, not only a very fine mansion, in excellent taste, and surrounded by graperies and hot-houses, but vases, statues, deer in castings, &c., but an actual stream of water and a pond, with foreign and domestic swans besporting themselves in *rather* narrow quarters, but very pretty; and among them a black one. In other places are aviaries, very judiciously constructed, and, we must say, with handsome and healthy looking occupants; the maccaw and the golden pheasants as gilded as ever.

Now take a view of the walks, where six men find constant employment, chat with George McKimmie, the intelligent gardener, get into the shadow of the Deodars, the Weeping Cypress, shake hands with *Araucaria excelsa* and *Braziliensis*, and a thousand things well known to fame, refresh under the fountain, and repeat with the poet, while you wonder that an expense which would once have bought the whole State of Illinois, should be here smoked by a town:—

“A breath of unadulterate air,
The glimpse of a green pasture, how they cheer
The citizen, and brace his languid frame!
E'en in the stifling bosom of the town,
A garden, in which nothing thrives, has charms
That soothe the rich possessor, much consoled
That here and there some sprigs of mournful mint,
Of nightshade or valerian, grace the wall
He cultivates. These serve him with a hint
That nature lives; that sight-refreshing green
Is still the livery she delights to wear.”

Baltimore would be but half-explored, if *Clifton Park*, the residence of *Johns Hopkins, Esq.* (quite near the city), was left unnoticed. The announcement that the horticultural party would be there on the morrow, brought us tickets, and an invitation to look about, but we were unfortunate in not having an introduction to the wealthy proprietor engaged in town affairs during the day.

A native forest of remarkably beautiful trees, is the nucleus which first attracts attention as you enter this very fine domain. We prefer the results of planting, and the interspersing of fine old evergreens which this gives, but as our merchants rise, get rich, and perish, they must, for present enjoyment, get a wood ready planted; and the American Indians knew nothing of Weeping Cypresses, Deodars, or anything that would not color a feather, or point—not a paragraph—but an arrow; so Mr. Hopkins has taken what they left him, improved what he found, planted young foreigners of merit, many of them too near his roads; and he has been uncommonly successful with his lakes—a feature of artificial improvement most rare among us, and when in fine keeping, a most valuable acquisition. Boats, and bridges, and swans, seem here most naturally at home, and we must repeat our strong admiration both of this scenery and of the superb as well as very extensive flower garden—the whole under the intelligent supervision of William Fowler, but lately so successful as the gardener to John Tucker, in our own neighborhood.

There are but few more elaborate places among us than *Clifton Park*. Were we inclined to be personal, we should record the striking anomaly of it, and say, with regret, that Mr. Hopkins is a bachelor; but we forbear. That fact, once stated, our readers need not learn that it is an often mooted and mysterious question with the good people of the—shall we use so well known a phrase?—“the Monumental City,” whether the owner will not do as Girard did: make the whole

city his heirs, and *give* the first individual gift of a public park to an American city. We can only say, that if he should ever ask us our opinion on this momentous question, we should answer: "By all means!" It is a fairy scene where future men of taste will bless the memory of the man so fortunate as to possess, so nearly, a paradise. May it be long before he is driven from what is so evidently a labor of love.

GARDEN VEGETABLES, NO. 7.—SQUASH.

BY WILLIAM CHORLTON.

HOWEVER small the garden may be, a portion ought to be occupied by one or more of the various forms of this desirable vegetable.

The Squash family, as a kitchen edible, is originally from Astracan and the Levant, notwithstanding which, our climate is well adapted for it, and we have now, on our Western Continent, perhaps as great a variety as are to be found in any part of the world. The primitive types from which these varieties have emanated, are some three species of *Cucurbitæ*, viz: *C. melopepo*, *C. verrucosa*, and *C. ovifera*—a genus nearly allied to the melon. The requisite culture is of the simplest character, for they will thrive in almost any kind of soil, excepting an undrained swamp bottom, and may be had fit for use, from the same garden, nine months of the year. In order to obtain this, however, different sorts will have to be employed, as explained below, the best only being noticed.

Early Bush, or Patty Pan.—This is one of the earliest and most hardy kinds, of bushy habit. Fruit, shaped somewhat similar to the shallow pans used for baking pies in; rind, cream colored; flesh, white and tender, but wanting in flavor. Sown in a slight hotbed or the greenhouse in March, and transplanted out in May, or when the danger of frost is past, it will be ready for use early in July, in this neighborhood (lat. 40°). Three plants are enough for six feet square of ground. For the general out-door sowing, in the middle of May, drop five or six seeds in a spot, and at the aforesaid distances, cover two inches, and thin out, when fairly up, to three in each hill.

Bergen Bush.—Of similar habit; fruit, long, green-striped; flesh, more solid, and of better flavor than the above, but not so early a bearer. It may be treated in the same way in all respects.

Summer Crookneck.—This is a very beautiful looking Squash; when pure, it is white in color, and shaped like a Bell Pear, with the neck curled over to one side. It is serviceable for summer and fall use, and may be planted the same as the last, only differing as to distance, requiring the hills of plants to be eight feet asunder.

Vegetable Marrow.—The flesh of this variety is more watery and pulpy than any other, and some persons prefer it on this account; the flavor, also, is peculiar to itself, being something of a turnip minus the pungency. Fruit, creamy yellow, oblong, and of good size. Plant the same as the last.

Boston Marrow.—One of the very best for winter keeping, and of the finest flavor. Fruit, orange colored, irregularly oval, weighing from eight to twelve pounds; flesh, solid, orange yellow, sweet, and nutty. This Squash is far preferable to the pumpkin in the making of pies. Being a great grower, two plants are enough for a hill, each of which ought to be ten feet apart; even at this distance, in good ground, the yield is enormous.

Cocoa-Nut is similar in habit and quality to the Boston Marrow, but does not fruit so freely.

Winter Crookneck.—A good winter sort, of large size, but not so fine as the

Boston Marrow. The three latter varieties may be sown amongst the earliest crop of sweet corn, or between the drills of early potatoes. In this way a saving of ground is secured, and as the previous crop is away before the vines have progressed far in length, the yield of Squash is very slightly injured. These sorts, also, may be preserved good until April of the next year, provided they be perfectly ripe, and gathered before any frost has touched them. House them on a dry day, lay on a dry floor, separate from each other, and in a room where the thermometer never sinks below 40°. When piled in a heap, or kept in a damp atmosphere, they are sure to decay, while the reverse will be the case if the above advice be taken.

The good or bad cooking of a Squash makes so much difference, that it may be delicious to the taste of the epicure, or unpalatable to any animal excepting a hog; and there are some cooks who manage other things tolerably well, but yet fail in this. To remedy this evil where it does exist, the following recipe is appended, which, if followed, will serve up a dish of Squash in the best order:—

Cut into square pieces; after cutting off the rind, put these into a pan of cold water. Boil until quite soft. According to the greater solidity of each sort, so will the required time of boiling be comparatively longer. Strain through a clean towel until all the superfluous water is drained out, for on this, in a great measure, the quality depends. Beat up with a tablespoonful of untainted butter, and a little pepper and salt to taste. Serve whilst hot.

SHRUBS WITH ORNAMENTAL BERRIES.—NO. 2.

BY THOMAS MEEHAN, GERMANTOWN, PENNSYLVANIA.

18. *Gaultheria shallon* and *G. procumbens*.—Small shrubs, with handsome flowers, succeeded by numerous edible, black berries. A kind of bread has been made of the berries of the first species, in California. They are not easily grown in common garden soil, but in a bed of sandy peat or vegetable soil, in a moist, shaded, or cool situation, they are very pretty objects. Propagated by dividing the roots.

19. *Ilex*. The Holly.—The beautiful evergreen foliage of the American Holly has less to do with its enviable reputation than its bright, waxy, scarlet berries, which remain all the fall and winter till spring. Though it occasionally forms a tree of no mean dimensions, its general character is that of a strong shrub. It is rather difficult to raise, though very tractable when it has once attained a few feet in height. The berries grow best sown in moist, sandy, vegetable soil. If allowed to become dry before germinating, and after having been a short time in the ground, they will remain a long time without growing. The *I. Dahoon* is a deciduous species, native of the Southern States, not hardy, I believe, north of Philadelphia, but of great beauty where it will grow. It has long spikes of rich, scarlet berries, of the same size and shape as those of the common Holly. There are several other species belonging to this section, but none of them of much value, being so entirely eclipsed by the two named. Modern botanists have included the old genus *Prinos* under the Hollies. *I. (Prinos) verticellatus* is to the North what the Dahoon Holly is to the South. Its common name, Black Alder, is unfortunate, as there is a real Alder of that name; and to confound such a beautiful plant with another with which it has nothing in common, reduces its respectability. Before the leaves ripen, it assumes its bright red color, and as the birds do not seem partial to it, it retains its beauty most of the winter. It will grow in any soil or situation, but a moist, rich locality best suits. It grows very readily from

seeds sown as soon as ripe, or properly preserved for spring sowing. *P. ambiguus*, I have no doubt, is a mere variety of the other. *P. glaber* is a handsome, small, evergreen, with leaves like those of *Kalmia latifolia*, and small, shining, black berries. It is readily propagated by dividing its running roots, but it will only do well in a sandy, vegetable soil.

20. *Leycesteria formosa*.—In this part of the world, this plant usually gets killed to the ground, but shoots up again vigorously in spring, and, towards fall, bears a profusion of its very singular berries. It is of very easy culture, and though its berries cannot be by any means styled beautiful, they generally please by their appearance.

21. *Ligustrum vulgare*. Privet.—Common as this shrub is, I am very partial to it. It has an Oriental appearance denied to most other plants; its pure white flowers, in dense clusters, diffuse an odor which to me is very grateful; its jet black berries seemingly produced with such ease, and without the great effort it seems to cost many plants to bear their fruit; and then, the patience it exhibits, and the contentment it shows with its lot, whether favored with good, rich soil, in a desirable situation, or left to fight its way in any stony, gravelly soil—all endear it to me. There it grows so readily, that a branch stuck in by mere chance, will produce a plant at any season. There are many varieties, but the fruit of all is alike.

22. *Lonicera*. The Upright Honeysuckles.—*L. xylosteum*, the Fly Honey-suckle, is a highly ornamental shrub, growing about ten feet high, and producing, in July or August, a profusion of bright red berries, resembling large red currants. It is of the easiest culture, growing in any soil, and either in sunshine or shade. It may be raised from seed, but is usually propagated from cuttings taken off in the winter, and planted early in the spring. *L. Tartarica*, the Tartarian Honeysuckle, is similar, in general appearance, to the last, but the leaves are smooth, and the berries are of a pale amber color. *L. Ledebourii*, the Californian Upright Honeysuckle, has golden berries, but I have not noticed them in quantities sufficient to make much show.

23. *Magnolia umbrellata*, or *tripetala*.—Rather a large tree than a shrub, but it has a tendency to throw up suckers or offsets, and form a thick bush. The color of the fruit varies very much in different plants, some individuals bearing pale, nearly white fruit, while others present a rich crimson. In the latter state, it is very ornamental. Efforts should be made to propagate these scarlet fruited varieties, which can readily be done by grafting on the other strong growing kinds. *Magnolia tripetala* is of the easiest culture, growing well in any light, rich soil. *Magnolia glauca*, the Swamp Laurel, though the fruit is of the same green color as the leaves, is very handsome when the deep scarlet seeds appear as the seed-vessels burst open. It does best in a moist, rich soil, though it will succeed in quite dry situations, if not in absolute clay. Magnolias do not transplant well in the fall of the year, unless very early—say September. If the roots are kept from drying, and they are well watered at planting, they will succeed better in April or May than at any other period of the year.

24. *Mitchella repens*. The Partridge Berry.—A well known, small, creeping plant, with evergreen leaves, and small crimson, holly-like berries, bearing them at all seasons, and chiefly through the winter. It only succeeds in shady places, growing around the bases of large trees, or creeping over rotten roots. There are few things handsomer of its class.

25. *Mylocaryum ligustrinum*. The Buckwheat-Tree.—I am now describing a shrub of which I know nothing practically. I can only say that it is one of the most beautiful of our native shrubs, grows naturally in Georgia and Florida, has

been in cultivation by old Bartram, and found hardy in his time (although the "oldest inhabitant" says they never had such winters as we have now a days) at Philadelphia, and that he who reintroduces it, will deserve well of his brethren.

26. *Rhamnus*. The Buckthorns.—*R. catharticus*, the common Buckthorn, so very popular in some parts as a hedge plant, is well known in that capacity, but few are aware of its highly ornamental appearance when suffered to grow as a specimen bush on the lawn. Its berries commence to ripen in September, and continue in succession till October. Birds are very fond of them, and take good care of their share. It is of the easiest culture, thriving anywhere, but in no situation so well as one that is fully exposed. Seeds grow very readily sown in either fall or spring. The *R. Caroliniensis*, Carolina Buckthorn, is a still handsomer species; the berries are larger, and more numerous, at first red, then changing to a shining black, remaining on till Christmas. (To be continued.)

PRACTICAL HINTS TO AMATEURS. JULY.

BY THE LATE A. J. DOWNING.

If you have a crop in your kitchen garden which looks sickly, water it once or twice with guano water (a handful of guano to a pail of water), stirring the soil with the hoe before applying the water.

This is the season of the year to give *shape* to your shrubs or plants. A little shortening-back now, on overgrown shoots, will make the dormant buds push out new shoots on parts of a shrub or tree which are deficient in foliage, so as to bring it into good shape before the season of growth is past. For small plants, that you wish to make bushy and thick, there is nothing like *pinching-off* the ends of the leading shoots while they are young. It gives you thick and compact heads of leaves, instead of few and slender shoots.

Don't be discouraged at the inroad of an insect that threatens to destroy your favorite trees or plants. Set about studying its natural history, and depend upon it, if you only get a correct notion of its habits, you can soon exterminate it by a little energy and perseverance. Tobacco water will kill any insect, if it is judiciously applied, and *perseveringly repeated*, however much they may seem to defy it at first. Always use it in the morning, or just at evening; for it is throwing away your ammunition to fire into the enemy's quarters in mid-day, when they are wide awake, and ready to dodge the fire.

If you want to propagate everblooming roses by *cuttings*, your best time is now, just as the young wood begins to harden, after the first flowers are past. A frame, sunk on the north side of a fence or wall, with a sash to cover it, will enable you to raise hundreds of roses with very little attention. Make the soil in the frame six inches deep, of rich mould, mixed with one-half fine sand. In this plant the cuttings, with a single leaf left on the top of each. Water them every evening, leaving the sash off all night, and replacing it early in the morning. In case you want them to plant out in the borders, you may let the cuttings grow in the frame where they strike all summer, covering the glass with about six inches of straw in the winter, and planting out the young plants early the next spring; but if you want them for pot culture, then, of course, plant the cuttings in pots, instead of the soil of the frame; and, in five or six weeks, they have formed new roots, so that you may repot them—one in each small pot.

To have raspberries very large and fine, you must make a new plantation every fourth year. The soil should be trenched twenty inches deep, and a quantity of coal ashes and stable manure turned well underneath. The raspberry likes a cool,

deep soil, and a top dressing of guano every spring adds greatly to the size of the fruit.

Look over your cherry-trees, and see that none of them suffer from being hide bound. If they look unnaturally small in any part of the trunk, and swollen in other parts, you may be sure this is the case; and if you do not relieve it by slitting the outer bark with your knife, the tree will soon decline. Old cherry-trees are very much improved in health and productiveness by shortening-in the long branches at this season of the year, thus forcing them to make some thrifty new shoots.

Plum-trees like a moist soil. I have found that covering the ground four inches deep with old spent *tan-bark*, is a good way of preserving the moisture, and keeping the tree in health. I scatter fresh lime thickly over the surface of the tan every year, as soon as the green fruit begins to fall. This kills every curculio that attempts to enter the ground. The tan prevents the weeds from growing, keeps the roots cool, and insures me good crops of plums. I spread it as far as the roots extend, and it wants renewing, or adding to, once in three or four years.

Don't indulge in the folly of *hilling up* all the plants you raise in your kitchen garden. If you study nature, you will see that, as plants grow older, the roots at the base of the stem always incline to *raise out* of the earth; from which it is clear that they prefer not to be wholly buried up in it. Besides, unless it is a plant that dislikes moisture, you lose half the benefit of the summer showers by piling up a hill over the roots to turn off the rain. It is much better to loosen the ground thoroughly, and keep it nearly level.

Liquid manure is of great advantage to crops in a growing state; but it has double the usual effect if applied in damp and cloudy weather.

In raising hedges, the great point is to get *breadth at the bottom*. It is easy enough to get a hedge high enough; but if you let it run up without cutting it back, so as to make a broad and thick base, you can never make that base broad and thick afterwards. Shorten back, therefore, till you achieve what you want at the bottom, and the top will afterwards take care of itself.

If you find any of your favorite fruit-trees are failing from dryness of the season, or heat of the sun, cover the surface of the ground two or three inches deep with straw. Indeed, nothing benefits any delicate tree so much, in this climate, as keeping the roots in a uniform temperature, by this coat of straw laid on the surface of the ground.

There are few trees such gross feeders as the grape-vine. Soap suds and liquid manure, applied every week, will give an amount of luxuriance and a weight of fruit, on a single vine, that seem almost incredible. I have seen an Isabella Grape produce 3,000 fine clusters of well ripened fruit in a single season, by the liberal use of manure, and soap suds from the weekly wash.

If you wish to bring fruit-trees into bearing at an early age, pinch off the ends of the shoots now, and again at the end of six weeks. This accumulates the sap, and the surplus becomes fruit buds for the next season.

The secret of neatness and economy in summer culture of a garden, is to *stir the ground often*. It is a trifling task to destroy an acre of weeds, if you take them half an inch high, but a very laborious undertaking to get them subdued, if they once are allowed to make strong roots, and leaves of full size.

AN OLD DIGGER.

WASHINGTON, A HORTICULTURIST.

WE are apt, from all that has been published, to look upon Washington as a farmer on a large scale, but, when we approach him nearly, we find him also a gardener and a horticulturist. In reading Irving's new life of the great Statesman, it is difficult not to extract a passage here and there, and to-day we must be indulged in this respect.

In a letter to the Chevalier de Chastellux, for whom he felt an especial regard, he says: "I will only repeat to you the assurances of my friendship, and of the pleasure I shall feel in seeing you in the shade of those trees which my hands have planted; and which, by their rapid growth, at once indicate a knowledge of my declining years, and their disposition to spread their mantles over me before I go-hence to return no more." (Vol. iv. p. 455.)

A few pages forward, we come upon the following passages, from the graceful pen of Mr. Irving:—

"He had a congenial correspondent in his quondam brother-soldier, Governor Clinton, of New York, whose spear, like his own, had been turned into a pruning-hook.

"Whenever the season is proper, and an opportunity offers," writes he to the Governor, "I shall be glad to receive the Balsam-trees, or others which you may think curious and exotic with us, as I am endeavoring to improve the grounds about my house in this way." He recommends to the Governor's care certain grape-vines, of the choicest kinds, for the table, which an uncle of the Chevalier de Luzerne had engaged to send from France, and which must be about to arrive at New York. He is literally going to sit under his own vine and his own fig-tree, and devote himself to the quiet pleasures of rural life.

"At the opening of the year 1785, the entries in his diary show him diligently employed in preparations to improve his groves and shrubbery. On the 10th of January, he notes that the white thorn is in full berry; on the 20th, he begins to clear the pine groves of undergrowth.

"In February, he transplants ivy under the walls of the garden, to which it still clings. In March, he is planting hemlock-trees, that most beautiful species of American evergreens, numbers of which had been brought hither from Occoquan. In April, he is sowing holly berries in drills, some adjoining a green-brier hedge on the north side of the garden gate; others in a semicircle on the lawn. Many of the holly bushes thus produced, are still flourishing about the place, in full vigor. He had learned the policy, not sufficiently adopted in our country, of clothing his ornamented grounds as much as possible with evergreens, which resist the rigors of our winter, and keep up a cheering verdure throughout the year. Of the trees fitted for shade in pasture land, he notes the locust, maple, black mulberry, black walnut, black gum, dogwood, and sassafras, none of which, he observes, materially injure the grass beneath them.

"Is, then, for once a soldier's dream realized? Is he in perfect enjoyment of that seclusion from the world and its distractions, which he had so often pictured to himself amid the hardships and turmoils of the camp? Alas, no! The 'post,' that 'herald of a noisy world,' invades his quiet, and loads his table with letters, until correspondence becomes an intolerable burden."





THE FAUCIBLE ORANGE RASPBERRY

ORANGE RASPBERRY.*

"The Orange Raspberry was first described in the *Horticulturist*, vol. i. p. 178. This Raspberry originated from a seed of Dyack's Seedling—a new crimson variety, imported from England by Mr. Robert Buist, of this city. The seed vegetated in 1844, and the plant fruited in 1845.

"*Size*, large. *Form*, conical, sometimes ovate. *Skin*, orange color, although the maternal parent was a dark crimson variety. *Flavor*, very fine. *Quality*, 'best.' *Leaf*, somewhat irregular in form, usually less pointed than other kinds, and very much corrugated. The plant is of vigorous growth, and has white spines.

"The Orange Raspberry generally, but not invariably, reproduces itself from seed. Occasionally, its seedlings are crimson varieties with red spines."

[To the foregoing description by Dr. Brincklé (who originated this favorite Raspberry), we may add that it continues to grow in public favor, all that can be produced being annually disposed of, and the demand still unsupplied. It has been highly praised at Boston, and, in this region is considered unsurpassed.

Downing used to say, as we came out of Dr. Brincklé's small city plot, that he was doing more for American horticulture than any living man. If he had never produced anything but this Raspberry, his name would have deserved more than a cold statue; but he continues to devote the little leisure afforded by a very extensive practice, to the good of the fruit lovers, and, with a modesty peculiar to real merit, claims nothing from public applause. Long may he live an ornament to his profession, and a benefactor of his race.—ED.]

NEW PLANTS.

CAMELLIA RETICULATA, FLORE PLENO. Nat. Ord., *Ternstræmiaceæ*.—*Camellia reticulata*, presumed to be a native of China, appears to have been unknown in Europe till about 1820, and flowered in this country, for the first time, in 1826. The double flowered variety here described by Sir William Hooker, was forwarded to Messrs. Standish and Noble by Mr. Fortune, and though not strictly "double," the flowers have twice as many petals as the ordinary *reticulata*, of a brighter rosy red, firmer texture, and more regularly disposed. They are of a large size, measuring in some cases near six inches across. The foliage is very distinct from that of *C. japonica*, being strongly marked with network, and of fine size. (*Bot. Mag.*, 4976.)

SONERILA ELEGANS. Nat. Ord., *Melastomaceæ*.—From the Neilgherry Hills; introduced by Messrs. Veitch, of Exeter and Chelsea, in whose stove it has recently flowered for the first time. It grows about a foot high, bearing pretty rose-colored blossoms, and fine foliage; the former consist of three petals, and measure about an inch and a quarter across. The stamens, three in number, are very prominent, bright yellow, situated on deep red filaments, as is also the style; the leaves are from four to five inches in length, ovate, marked with ribs or longitudinal nerves, the upper side bright green, and reddish-purple beneath, where the nerves are prominent; the leaf-stalks generally are brown or dull purple. No doubt, this will prove a desirable acquisition to the stove. (*Ibid.*, 4978.)

HOYA GRANDIFOLIA. Nat. Ord., *Asclepiadaceæ*.—A new and striking species, lately received from the Island of Nœsa Kambangan, to the south of Java. The

* See Frontispiece.

flowers equal in size those of *H. imperialis*, but are of a pure white; the foliage is elliptic, and rather downy.

FAGRÆA MORINDÆFOLIA. Nat. Ord. *Loganiaceæ*.—The flowers of this strikingly handsome new stove plant are trumpet-shaped, of a delicate rosy blush, with a pure white mouth, produced in clusters on long terminal spikes. The foliage also is handsome, resembling that of the Magnolia. We are indebted to Messrs. Rollisson for the introduction of this plant, whose collector detected it in the district of Indramaya, in the western part of the Island of Java. Worthy of a place in every stove.

FAGRÆA PEREGRINA. Nat. Ord. *Loganiaceæ*.—From the same locality as the above. The flowers are, however, white; in other respects, it resembles the foregoing.

VRIESIA SPLENDENS. Nat. Ord. *Bromeliaceæ*.—A plant resembling, in many respects, a *Tillandsia*, but with beautifully variegated foliage. It puts forth a long scarlet spathe, from the colored bracts of which issue the flowers, of a pure white. This is a handsome addition to an interesting tribe of stove plants.

BLANDFORDIA NOBILIS. Nat. Ord. *Liliaceæ*.—Well adapted as this is for greenhouse culture, few persons who have seen it in bloom can fail to admire it; when more generally known, we can readily imagine no greenhouse will be without it. The flowers are liliaceous, bright orange and scarlet, remaining in perfection a long time. The foliage is recurved, and resembles a tuft of grass. In habit it is dwarf, not exceeding twelve or fifteen inches in height, and very free blooming.

BEGONIA ROSACEA. Nat. Ord. *Begoniaceæ*.—The present was introduced by M. Linden, of Brussels, through that indefatigable collector, M. Triana. It is a tuberous-rooted kind, sending up fine, rather downy, radical leaves, and bearing large blossoms, of a pale rose color. Altogether, this variety promises to become a great favorite. It grows in the Western Cordilleras of Columbia.

THE WAY THEY TALK IN CALIFORNIA.

THE American, so lately the possessor of California, seems to have wakened up a new scene in its fine valleys, and already we have records more pleasing and humanizing than those of the gold hunter thirsting after sudden riches. Laying on our table, and inviting perusal, we picked up a month later than it deserved, the *Official Report* of the California State Agricultural Society's Third Annual Fair, Cattle Show, and Industrial Exhibition, held at San José, the last fall. Its publication marks an era in the history of this Union which it is well not to pass over unnoticed. A whole new country, falling from the hands of an inert race into the possession of a new and energetic people, has been transformed; the results of energy are here pointed out in most energetic language, and in a spirit that has already swept the lazy Spaniard from the soil; we hear no more of him than of the red Indian in Pennsylvania.

California possesses many advantages of soil and climate; the cultivators are turning their attention, in some places, to tropical fruits, with eminent success, and soon oranges, &c., will form staples which will prevent the need of importing the great luxuries of Central America. Camellias, in many parts, prosper to perfection. The lemon, lime, the citron, the mango, the sapota, aguacote, or butter-fruit, the pepper-tree, cotton, foreign grape-vines in every variety, the soft-shelled almond, sugar-cane, pomegranate, pine-apples, cotton, the olive, are among the products which do or promise well.

The *Report* mentions so many successful cultivators with their thousands of trees

and vines, that we are obliged to omit the majority. At Marysville, Beach and Shephard have 40,000 peach-trees, 5,000 apple, and 5,000 pear, 3,000 cherry, 2,000 plums, and 40,000 grape-vines, with a large amount of ornamental trees and shrubbery. G. G. Briggs has nearly 200,000 peach, and 20,000 nectarine and apricot-trees. Gen. Sutter, a great collection, and a garden and grounds in excellent taste. In some cases, most of the labor is performed by Indians. The mulberry for the silkworm, is getting into vogue. Mr. Delmas has eighty varieties of grapes, whose thrift and luxuriance afford strong evidence that they could not have found a more genial climate. He has 24,000 grape-vines in all. Mr. Wm. Lent and E. L. Gould, number their fruit-trees by the thousand. Mr. J. Cook grows the Black Morocco Grape in perfection, and all these grapes are of open air culture. Mr. F. G. Appleton has a hundred swarms of bees, doing extremely well. The swarms which Mr. A. had last spring, have produced from two to four swarms each. The honey which has been taken from them is of the finest quality. The experiments which have been thus far made with bees, give every assurance that there is no country in the world superior to California for the honey bee.

Peach-trees budded the previous year on small seedlings, in twelve months were eighteen inches in circumference at six inches above the ground. The fruit of four old pear-trees, grafted with Bartlett's eighteen months, had been sold for \$160. Mr. Lewellyn has 25,000 apple-trees, and grew three apples upon grafts inserted the previous winter, and only a few inches from the ground. Mr. Daniels' garden is filled with a great variety of choice fruit-trees and plants, which are cultivated with a skill which few possess in a higher degree than Mr. Daniels, who is one of the foremost minds in California. Smith and Winchell have 100,000 apple-trees, of eighty varieties. Messrs. McMurtrie were offered \$10,000 for the produce of 100 acres of potatoes. Messrs. Thompson have 18,000 trees, and a vineyard of 8,000 vines—the latter protected from the winds by belts and avenues. Their orchard, which the previous year looked, from a distance like rows of half-grown corn, was the next, a forest in which a man may hide himself. Their plan is to plough deep, dig wide and deep holes, and work the ground from February until July, allowing no grass or weeds to grow among the trees. Major Barbour fully expected to realize from \$15,000 to \$20,000 from two acres of melons, selling two to three hundred dollars worth a day. Twelve pumpkins raised in Los Angeles, weighed over fifteen hundred pounds. Sausevain Brothers have 60,000 vines, and made two thousand and eighteen gallons of wine, and some brandy; and they have two good wine cellars—one 124 by 15 feet, the other, 90 by 16 feet. California seems destined to stand first among wine producing States. Mr. Cardwell raised a sweet potato weighing twenty-three pounds; they keep growing all the season. Mr. Smith raised a beet measuring three feet six inches in circumference. One tree of California Pear produced, last year, \$250. In two small valleys are found one million of grape-vines. And finally, they even turn their steamboat explosions to account, for "on the Colorado, forty miles below Fort Yuma, in August of 1854, a steamer transporting Government stores was blown up; and the next year, in places where the sacks had fallen, a fine growth of barley was found!"

And to conclude: "Of the *Gloria mundi* there were nine specimens, one of which was so enormously large that your Committee feel almost hesitant about giving its weight and measurement. It was seventeen inches in circumference each way, and weighed two pounds three and one-half ounces. It was of the most perfect form, and, in all respects, the most noble specimen of an apple we have ever seen. Had your schedule allowed a premium for the finest specimen, this would certainly have claimed it; but as we were compelled to consider extent of

variety also, we recommend a *special* premium for this of a framed diploma." Grateful Committee, and happy California! We must send out an agent, or go ourselves, for the half does not seem to be generally known. We are a wonderful go-ahead people, and it is only surprising we do not yet own Cuba, and the right of way to the placers.

HAVE PLANTS THE POWER TO CREATE?

IN a former number of this journal I queried whether Prof. Lindley meant to express it as his opinion that plants sometimes *created* silex and other minerals. The editor answers in the affirmative, at least conjecturally, and adds the instance of cactuses containing oxalate of lime "without a trace of oxalic acid or lime being found in the soil that supported them," and then queries: "Where does our correspondent suppose it came from?"

I am far from being a follower of the ancient Greek philosophy in pronouncing it an absurdity to suppose that something can be created out of nothing when applied to Omnipotence; but that He has endowed brute matter with the power of creation, I am not yet prepared to believe. The explanation of the foregoing instances of *apparent* creation appears to me to be sufficiently simple. Instead of taking for granted that because chemistry has not been able to detect these constituents of the plants in the soil, they do not, therefore, exist in it, I would prefer admitting that chemistry itself is at fault; that its imperfections are known. Is not its impotency manifest in failing to catch and cage the thousand odors which float in the air? What would be its success in attempting to exhibit the hundred-millionth part of a grain of musk? And yet the musk is there. We *know* it to be there.

Chemists have a limit to the power of their reagents. According to Devergie, the extreme limit of the power of ammonio-nitrate of silver in the detection of arsenic is the 400,000th part of a grain. Now let us imagine one-half of this quantity to be removed from the solution, the other half, or 800,000th part of a grain, would remain in the liquid, bidding defiance to all the scrutiny of chemistry.

Not only may plants avail themselves of these (as we say with great latitude) infinitely small particles of matter which no chemical means has ever been able to detect, but we know the extraordinary length to which some of their radical fibres extend. Now, before adopting Prof. Lindley's opinion, I would require the whole of the earth through which every radical fibre of the plant ran to be rigorously examined for the constituents in question; I would also want to be assured that no dust containing these constituents had lodged on any part of the plant during its growth.

These remarks are specially intended to be applied to silex, lime, and other minerals. The presence of oxalic acid and other organic substances, is easily accounted for; the elements out of which they are formed are always at hand, either in the air or the earth.

Leaving, therefore, the act of creation in the hands of Omnipotence, as His prerogative, I prefer limiting the power of plants to the act of aggregation, by which inconceivably minute particles of matter, not rendered cognizable by any chemical skill, are brought together into perceptible masses.

JOHN T. PLUMMER.

We did not suppose our correspondent used the term "create" in its strict and generally received sense; that he had any reference to the "absurdity that something can be created out of nothing;" or intended any allusion "to Omnipotence,"

our journal not being in any sense theological or metaphysical. In a matter of science, we would advise our friend to have no "preferences" for any "theory." Preferences, deductions, inferences, and the like, are the ruin of true science. We want experiment and observation of facts. We would rather publish a page, detailing what our correspondent has witnessed, than fifty to inform us in what he does or does not believe.

Our friend seems to possess some chemical information, and a desire for scientific knowledge. We will propose an experiment for his leisure hours. Let him take a plant—one of the Cactus family will do very well—weigh off a pound of soil, put it in a pot, and set the plant, weighing the latter also. He will find that the Cactus will grow in the soil for many years until the mineral parts of the plant shall far outweigh the difference between the weight of the original pound of soil. If he think the mineral particles are furnished by the water, he can use rain-water, or try distilled water, or other liquids, for experiment. If he find "silex," "lime," or any "other mineral," in the plant which he cannot even "imagine" a trace of in the soil or water, he need not infer, therefore, that the plant has made "something of nothing." He has other alternatives if he desires very much to infer something. He may, for instance, believe that silex, lime, and so on, are not, in reality, the simple and elementary substances chemists, in the present state of their knowledge, suppose them to be. He may, if he choose, fancy that silex is composed of two or more "elements;" that these "elements" are again formed of other elements, and so on *ad infinitum*; and he may after all believe that if the plant did not actually "create silex," it had a peculiar power to unite the "elements."

We speak of "silex," "lime," &c., as something which we well understand, but, though we know how they act, and are acquainted with many of their properties and relations, we know really nothing of what they *are*. Like the term "create," and other theological expressions, they are but words invented to hide our ignorance. Should our correspondent feel disposed to investigate the matter, we shall be pleased to publish his experiments.

UNITED STATES AGRICULTURAL SOCIETY.

ALBANY, May 30, 1857.

IN pursuance of previous appointment, the Executive Committee of the National Society met in this city last evening. The use of the rooms of the New York State Agricultural Society having been kindly tendered, the Board were called to order at half-past 7 P. M. Hon. Marshall P. Wilder, of Massachusetts, President of the Society, assumed the chair. On motion of His Excellency Gov. King, Mr. Olcott, of the Implement Committee, was appointed Secretary of the meeting.

Hon. Frederick Smyth, of New Hampshire, moved that Col. B. P. Johnson, Secretary of the New York Society, be requested to take a seat at the Board as an Honorary Member of the same, and to take part in the deliberations, which was unanimously carried.

The Committee then proceeded to the appointment of the judges upon reapers, mowers, and such other implements as are to be tested at the national trial at Syracuse, in July.

J. Stanton Gould, Esq., of Hudson, N. Y., was unanimously elected Chairman of the jury.

Messrs. Seth Scammon, of Maine; Brooks Shattuck, New Hampshire; Edwin

Hammond, Vermont; Sanford Howard, Massachusetts; Stephen H. Smith, Rhode Island; T. S. Gold, Connecticut; B. B. Kirtland, New York; Geo. Hartshorne, New Jersey; John Jones, Delaware; Francis P. Blair, Indiana; Frederick Watts and J. L. Darlington, Pennsylvania; Gen. J. T. Worthington and Wm. A. Gill, Ohio; Joseph A. Moore and W. L. Underwood, Kentucky; Joseph A. Wright, Indiana; Horace Capron, Illinois; J. C. Holmes, Michigan; Wm. C. Rives, Virginia; H. K. Burgwyn, North Carolina; A. G. Sumner, South Carolina; Richard Peters, Georgia; Lewis Worcester, Wisconsin; and Wm. Duane, of Iowa, were, upon motion of Gov. King, appointed as a Board of Judges, for the trial at Syracuse.

B. P. Johnson, Esq., moved that Mr. Joseph E. Holmes, the General Superintendent, be added as a member, *ex officio*, of the Board of Judges, which was carried.

The following resolution, upon motion of Gov. King, and seconded by Hon. Frederick Smyth, was unanimously adopted:—

“Resolved, That the proceedings of this meeting be presented to the Executive Committee of the New York State Agricultural Society, at its meeting at Buffalo in June; and that they be respectfully requested to appoint a committee, and to invite the members of the Society to attend the proposed trial of reapers, mowers, &c., under the auspices of the United States Agricultural Society, at Syracuse, in July next.”

Judge Gould moved, and it was resolved, that there should be two separate premiums on hay presses—one for stationary and one for portable presses.

The Chair called upon Mr. H. S. Oleott, Secretary of the Committee of Arrangements, to state what had already been done towards completing the preliminaries of the trial. Mr. Oleott stated that he had visited various cities and villages of Western New York, and had received liberal offers of pecuniary assistance and personal co-operation. Although quite equal to it, so far as suitable territory is concerned, none of the points seemed to present the advantages offered by the vicinity of Syracuse. Its position is central in the great agricultural district, and accessible by railroad to all parts of the United States. Its hotel accommodations are ample and excellent, the fields to be cut are in very close proximity to the city, and the citizens have generously offered to charge themselves with any excess of expenses over the receipts from entrances at the trial, should such occur. That locality had therefore been selected for the trial of the present year, and approved of by the Executive Committee. A large number of machines had already been entered, amongst which were nearly all of importance in the country.

Col. Johnson stated that he had just returned from Western New York, and was of the opinion that the trial could not be undertaken before the 20th July.

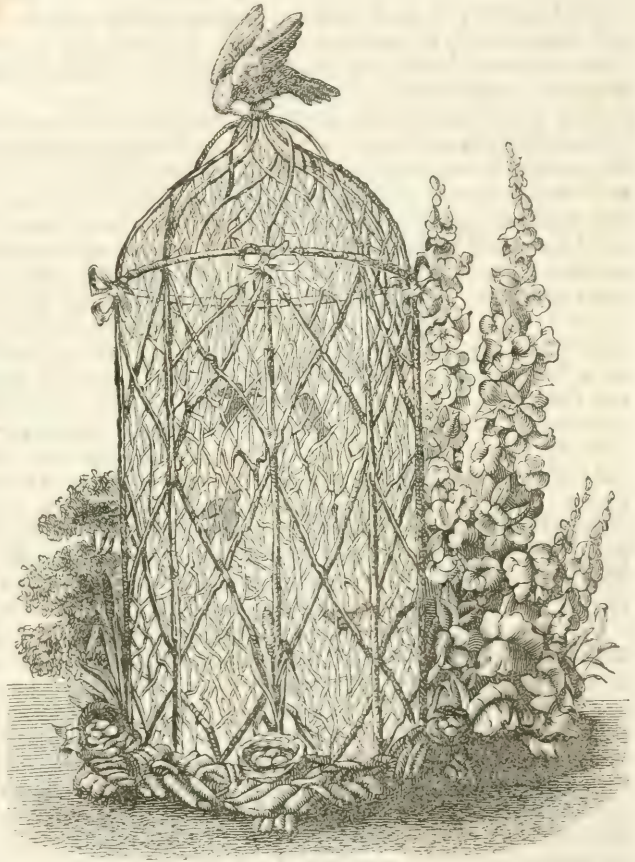
It will be seen, by reference to the list of judges, that they are chosen from the most influential gentlemen of each of the States directly interested in the use of the harvest machines. From the national character of the Society and the preparations already completed for making the trial a thorough one, the result will be anxiously awaited by the agricultural public.

Gov. King, who is Chairman of the Executive Committee of the United States Society, will be present and receive distinguished guests from other States. Agricultural discussions will be held in the city of Syracuse on each evening during the trial.



THE AVIARY.

IN visiting Baltimore, we more than once came upon beautiful aviaries—a species of ornament not generally introduced in America, and which it is perhaps as well to avoid, and to encourage the “free tenants of the air” around our dwellings. Prisoners of this kind are, however, sought by many; as it has been said, “people *do* and *will* keep them, and it is well to show how birds already confined, may be comparatively reconciled to their imprisonment.” This we leave to books which specially treat on the subject, our only object at this time being to give a portrait of a summer aviary, for the embellishment of a lawn. The interlacing branches form the framework, to which is attached, within a fine wire netting, the latter, painted a gay, ochreous yellow, or pale brown. The nests and reeds around the base are happily disposed, and appropriate in character, while the falcon poised above, suggests the security of the sheltered inmates of the cage.



A Summer Aviary.

The design might be worked out in metal or wood; if cast in iron, it would require to be appropriately painted or bronzed; if in wood, the general framework might be formed of well selected tree toppings, with carved nests at the base, on a firm timber or iron foundation. In any case, it would be well to attach near the summit either a wire with rings, or any other simple contrivance for the reception of a light blind or screen, to shade off offensive sunlight, or give shelter during spring or autumnal frosts.

TO THE PRESIDENT AND MEMBERS OF THE ——— HORTICULTURAL SOCIETY.

BY A MEMBER.

GENTLEMEN: Your Society, and many similar ones in this country, has been now long enough in existence to make it a suitable period to ask the question: "Has the law of progress which governs other institutions, such as Agricultural Societies, been observed by yours?"

You have awakened in a portion of the public a love of horticulture and flowers; your exhibitions and your premiums have accomplished much; let us look round us, and see if something more is not required of us. The monthly and annual exhibitions amount to this: they stimulate the practical, and delight the amateur; the premiums are looked upon by the receivers as of much more importance than their pecuniary value, and they continue to be sought as evidences that mind has assisted labor. But have you no other mission? These same plants, flowers, and vegetables, which you so happily bring together, are visited and studied by practical men, so that, long before they are exhibited by you, their history and cultivation are understood by the practitioners of horticulture, who find in your halls little that is new or surprising to them. Have you in your power the means and the will to advance a step further, and to give to your friends increased instruction? An exhibition as now managed, is to some persons very little short of a display of personal importance in a few men, who walk the halls as if *they had made* the plants, but who are never heard of between whiles for any useful discovery; their importance is exhibited, but their usefulness we have yet to learn.

As to your reports, they consist of naming the plants sent in, and awarding premiums, which, as far as I observe, go generally to the same individuals, and your horticultural proceedings have become about as dry a catalogue as those of the nursery; few read them but the premium takers and their employers.

This was very well and proper in the infancy of your Institution, but *progress* should be your motto; and I trust you will permit a friend of your Society to suggest that something more advanced, and in consonance with the genius of the age, should be struck out as necessary to entire success, and to continue your association in the good graces and opinions of your numerous patrons. The mere showing of so much money as the profits of your career, is just nothing compared with what you might accomplish.

I know that, in all human institutions, jealousies will creep in and disturb the unanimity which is desirable in carrying out all good ends; but unanimity can be attained, if you will convince the reason of your members. I would suggest, therefore, whether it is not in your power to add materially to your usefulness, and will throw out a few hints for reflection?

You have funds, wealthy members, and a large and liberal public to deal with. Suppose you club your means and your thoughts, and create an *Experimental Garden*. Your policy has heretofore been one of successful *co-operation*; continue to co-operate, and extend your usefulness. It may be set down as a fact, that of the thousands who breathe your perfumed atmosphere, under the illumination of gas, a very small number ever enter a greenhouse, or see a large, neat garden; they want to do this, however, and would do it if facilities were given. Private gardens are very well, but the thousands of lovers of flowers do not feel at liberty to open other people's gates; they want to have a place where they can go by right. If your society does not, ere long, provide such a spot, it will be,

probably, provided under other auspices. Of the propriety of this step, many of your former and present members were and are convinced. It might be simple in its arrangements, at first, while it was at the same time eminently neat and clean. Very soon, it would have presented to it the duplicate specimens abounding in fine gardens and conservatories, and an emulation would grow up there as completely as it has grown up at your annual fairs. *An example of landscape gardening thus created, would not be without its effects on the public mind, to say nothing of its usefulness in promoting a taste for gardening that would create a fourfold demand for the products of the practical gardener.*

I would ask, again, if there are not topics for public teaching that come under your special mission? Many could be named, but my letter is becoming a long one, and must be concluded. The agricultural societies give exhibitions of farming implements, and are very successful at their fairs—far more so than the horticultural societies, and I must add, however reluctantly, they are more useful. Now there is, among other matters, the construction of heaters for greenhouses and graperies. Have you, or any horticultural society, ever offered a premium for the best and most economical structure of this kind? It is of universal interest to the gardening world, and I should be most happy to hear your awards on this and other new topics.

Having made these suggestions in a spirit of admiration for what you have already accomplished, and in language which, I trust, the Editor of the *Horticulturist* will not condemn, and wishing your particular society every kind of prosperity, I am, Mr. President, and the members of the ——— Horticultural Society, most respectfully,

Your obedient servant, VIATOR.

[Viator has hit upon a most important topic, and, we trust, the particular Societies to which it is addressed, as well as others throughout our broad land, will take it into serious consideration. The Society which first establishes a model garden in this country, will live in history.—ED.]

SALE OF THE SPRINGBROOK (MR. COPE'S) COLLECTION.

A GOODLY company attended this, the largest sale we remember in the neighborhood of Philadelphia, both for extent and variety. The bidding opened quite spiritedly, and we soon found that our distant friends were here, by their proxies, at least, and that Baltimore especially was well represented. Many of the finest of the hardier greenhouse plants were secured for that region, as much as twenty dollars having been given for some of the fine Indian azaleas. Some of the rare plants were sold at a great sacrifice, considering the size of the specimens, though this was by no means universally the case. A fine plant of *Gardenia Stauleyana* brought \$5 25, the *Brownea grandiceps* brought \$40, and two small plants of the Hand-Shaped Lemon, \$5 25 and \$6 25. A small Lime-tree sold for \$5, and some species of *Metrosideros* at \$3 50 to \$4. A moderate specimen of *Rhododendron Gibsonii*, \$9, and some large specimens of *R. arboreum* at prices averaging \$25. An European Olive (six feet high), \$6, and a sweet one (*O. fragrans*), same height, \$18. *Eugenia ugni*, the new and rare fruit, for \$2; a handsome *E. myrtifolia*, \$10. *Cycas revoluta* (three feet high), \$25. Large Oranges and Lemons, \$20 to \$42. A very large *Strelitzia reginæ*, \$19. Fine specimens of yellow and white Banksian Roses, \$18 and \$10. A beautiful specimen of the Camphor-tree, \$16. The Camellias

were in too great quantity for the number of buyers, and though the bidding was for a time quite spirited, and they realized fair prices, they eventually fell to a low rate, and, on the whole, went at a great sacrifice. The rarer kinds of Orchidea realized prices varying from \$3 to \$11. A small specimen of the Elephant's Foot brought \$15. A large number of rustic hanging baskets of very simple construction, but filled with beautiful, yet mostly common plants, brought very good prices. This should encourage gardeners to prepare for the demand for these articles, which is increasing every day. The new proprietor (Mr. Stuart), and Mr. Dundas, of Philadelphia, kept the lead in the Orchidea; many fine specimens of these, however, and of the miscellaneous plants, were bought by Mr. Starr, of Camden, N. J. Among the purchasers of the latter description, were Mr. McHenry, of Baltimore, Mr. Shipley, of Wilmington, Del., Mr. T. P. Barton, of Montgomery Place, N. Y., and Gen. George Cadwalader, Mr. Joseph Harrison, and Mr. John Bohlen, of Philadelphia, and Mr. Stuart. Mr. G. W. Carpenter, of Germantown, was a liberal purchaser of Camellias, the largest specimens of which, however, ranging from \$19 to \$30, were bought by Mr. W. H. Stewart, of Torresdale. Mr. T. Meehan, of Germantown (formerly gardener to Mr. Cope), became the possessor of the Cactuses; this extensive family produced \$400.

Thus has fallen one of the finest collections of plants in this country, all of them, with a single exception, being entirely dispersed. We sincerely trust that Mr. Cope will find that health in his native Pennsylvania mountains, which the cares of a long life of successful business activity seemed likely to deprive him of, and in his retirement from the details of his horticultural experiments, we are quite sure he will carry with him the gratitude and esteem of every lover of plants in the Union, for whom, and for whose cause, he has accomplished so very much.

It would be unjust to the merits of Mr. Cope's late gardener (Mr. Jerome Graff), did we fail to notice the excellent order and superior neatness of everything under his charge. It was the theme of general remark, and left a deep impression of Mr. Graff's talents and abilities. Examples of neatness are but too rare in all countries; the opportunity of inspecting what care and attention can effect, has not been lost, we are confident, upon the succession of visitors who were on the ground for the three days of the sale.

The bringing of these extensive conservatories and greenhouses to the hammer, affords several topics of interest to the lover of flowers. It is desirable to know, for instance, the value, tested by a public sale, of such a private collection, so long and carefully kept, and to notice the variation of prices in a succession of years; some improve by age, but others depreciate with increased cultivation.

The entire collection realized \$3,500, a sum which must be deemed very satisfactory, showing, as it does, that such an investment is not thrown away, if, indeed, it may not produce much more than the first cost of the plants, and this is certainly not discouraging to the incipient builder of greenhouses.

The Camellias, Cactuses, and Orchids, sold very low as compared with former sales. At the closing, for instance, of the Landreth plants, a Camellia Landrethii brought \$45; the same bush, having the advantage of age and increased size, produced but \$19. The highest price given for a White was \$21; an Imbricata brought \$30, and a Myrtifolia \$24, while a few White, about eighteen inches high, worked plants, were bid off at twenty-five cents. The truth is, there were so many plants to sell, that purchasers became weary of attendance.

The cheapest plant sold was perhaps the Agave Americana, for \$50; three times that sum would have been given for it, but that it is so unwieldy. Smaller ones brought \$25.

The sale demonstrates another thing; that still plenty of devotees are pursuing

the subject of plant culture with enthusiasm, and in a liberal and enlightened spirit. There was one circumstance, at the close of the sale, which was touching in the extreme, and, we are sure, to none more so than to Mr. Cope himself. In consequence of Mr. Meehan, who assisted the auctioneer, having left before the close of the sale, it fell to the lot of Mr. C. himself, to cry out the names of the few last specimens. Few but lovers of plants can imagine the feelings of sadness he must have experienced when he handed out the very last, amidst thunder and lightning; it happened to be the "Flower of the Holy Spirit" (*Espiritu santo*)! Here was a gentleman voluntarily renouncing his pursuits other than business, and with feelings of regret, handing to another's care his last stake, and that was the "Flower of the Holy Spirit." A sadness must come over *his* spirits as he goes through his denuded houses, and sees no more those objects of his daily care, which had for so many years been a source of pleasure to him, and also to his many friends, and always calculated to multiply impressive lessons of the power and munificence of the great Maker of them all. "But sooner or later," he says in a private note to us, "we must resign them, with profound gratitude for the mercies still extended." As a horticulturist, we are fain to consider this dispersion as a calamity, but we pass the collection to new hands with trust and hope. The owner has been most liberal; he has the means and the will to be liberal still. If shown in other ways, it will only be a change from one liberality to another.

THE HOLLY.

MANY gardeners having turned their attention to raising the Holly of late, the following instructions regarding the proper treatment may be acceptable. We have no native evergreen to compare with this tree. It is difficult to raise and to remove, and is of rather slow growth, but this should be no discouragement; every one should possess the Holly.

First of all, gather the seeds just before Christmas. If you have more than a bushel of berries, mix with them an equal quantity of sand, and bury them, or cover them in a heap as you would a heap of potatoes; if less than a bushel, put them in a box with sand, and bury the box, and at the end of the following October sow them, sand and all, and cover them half an inch deep. The best soil to sow them in, is a piece of fresh ground which was trenched in the spring, and planted with potatoes. Next spring, or the following, the seedlings will appear, and, to do them justice, they should be watered, in dry weather, during the first two summers. At the end of two years (in October, or earlier), transplant them into a newly trenched bed or piece of ground, at six inches apart, water as before, and, at the end of four years, transplant them again, eighteen inches apart, in rows, and six inches leaf from leaf in the row, and water at least next summer. At the end of six years, take them all up, and *trim their roots*. Here is the turning point and grand secret of getting Holly fences. The plants, being now root pruned, must have lots of rotten dung, as for an onion bed, in their new quarters, and room enough to leave twelve inches clear from leaf to leaf between the rows, and six or eight inches from leaf to leaf in the row. Here let them remain three years, when they are ready to plant out in a hedge; but some prefer having the spade "run down" on each side of the rows, and leaving them another season. The site of the hedge should be trenched four feet wide and three or four feet deep the winter before; then planted with potatoes; and, as soon as the potatoes are up, down with the Hollies. If you purchase, buy four-year seedlings, and do the rest at home.

HOW GREATLY TO INCREASE GRAPE-VINES FROM LATERALS.

At a late meeting of the London Horticultural Society, a Mr. Fleming produced some cuttings of vines, which, in five days, had formed roots as much as three inches long, and which had been prepared by a new process. The usual methods of multiplying the vines are by layers, or cuttings, or eyes, each having so limited an application, that much time must elapse before any considerable number of plants of a new variety can be propagated. The method pursued by Mr. Fleming, is *to take advantage of the laterals* (which every vine may be forced to produce in abundance), to separate those laterals close to the old wood as soon as they have three or four leaves, and to strike them in silver sand in the usual way.

If a vine, says an informant, is so closely covered with glass that the air around it is always saturated with humidity, and if it is then exposed to the sun (the air being always warm) it breaks in the usual way; but, in a few days, each shoot will produce a lateral from the bottom of every leaf; these laterals, after growing to a certain length, will themselves break into fresh laterals, and so growth goes on. Thus, a vine in such a situation, having fifty eyes, will form fifty new shoots; these shoots, after a time, will break into at least ten laterals, and each lateral may be expected to produce half a dozen other laterals of a second order. This being so, a single vine with fifty eyes, may be compelled to produce materials for three thousand new plants, instead of its power of multiplication being limited to the original fifty eyes, as is the case under ordinary circumstances.

The process is in most respects similar to that practised in Messrs. Weeks' nursery, where vines of the old and new varieties are grown extensively, and Mr. Grüneberg, one of the partners, has introduced a plan by which the new varieties are increased with great rapidity, as follows: As soon as they have pushed a shoot a foot or fifteen inches long, it is cut back to near the base, and the top is made into cuttings, every one of which strikes, and thus a great many plants of any particular kind are obtained in one season. The chief point is, to take care to start them sufficiently early to get the young wood strong and well ripened by the autumn.

In both cases, young, green wood is employed; but in the last mentioned place, a shoot is itself divided into cuttings, each having at least a couple of eyes; and there the operation ends. So that, while in the case above supposed there is a possibility of getting three thousand cuttings in a season by the use of laterals, we could hardly expect more than three hundred by merely dividing the first strong shoots into cuttings. We know not whether these methods are absolutely new; probably not, for they are such as theory would certainly suggest if brought to bear upon the subject. But they are so far novel, that they have not been generally employed by gardeners.

We say that they are such as theory would suggest. Nothing is more certain than that the greater and more active the vitality of a cutting, the more freely will it become a new individual by the emission of roots. It is equally certain that vitality is most active in the young shoots of plants, turgid with organizable matter, and abounding in nitrogenous principles. Therefore it is a general axiom in theory, that a young cutting will strike more quickly than an old one; that green wood will root more readily than ripe wood. Propagation by the eyes of the vine is indeed, in some degree, an evidence of this fact. But ripe or half-ripe

wood, though least active, and charged in the smallest degree with organizable and nitrogenous matters, is usually preferred, and for the following reason: It is indispensable that some time should elapse between planting a cutting and its emission of roots, during which time its vitality must be maintained by artificial means. In many plants this is an operation so difficult or uncertain, that vitality departs before roots can come, and thus the cutting dies. Wherefore nearly ripe or fully ripe wood is often preferred, because its vitality, although comparatively low, is more easily supported in the absence of roots than if it were younger and more active. Whether or not, therefore, it is desirable to use green, half-ripe, or fully ripe wood for propagation, can only be determined experimentally. In many cases it has been thus determined, and we find one year old wood used for some things, two year old wood for others (as oaks and beeches when grafted), while in some cases the quite green wood is universally employed; to which latter class the vine may be now referred.

But is this a good mode of propagating the vine as well as an easy? That is to say, will the young plants obtained from green wood be as healthy as if from ripe wood? We understand that the vines obtained by Mr. Fleming's process are weakly the first year, but become strong and healthy in the second, if allowed to break in a cool house. Probably he has never pushed the process to its extreme limits by availing himself of the third generation of laterals. Let us, however, suppose he did; would the consequences be injurious. We cannot but think that they might be; for the laterals of the third generation, though active enough at first, would be likely to indicate symptoms of inherent, and possibly incurable, debility, as has occurred to the dahlia in cases of the over multiplication of that plant.

This is certain, that if vines are multiplied by the method above described, and are struck comparatively late in the season, it will be more difficult for them to ripen their wood than when coming from eyes in the usual way. This is, however, mere speculation, and we should be glad to hear that our anticipations are unfounded.

RED SPIDER.

THE little insect known too well to gardeners under the name of red spider, has obtained its popular name from the delicate web which it spins on the leaves which it affects, either presenting mere scattered threads or a distinct sac, though it is in reality a mite, and not a spider. It is just visible to the naked eye, being distinguished by its reddish hue, which, however, varies with age and other circumstances, unless more than one species is included under the name, and its active habits. The leaves which it attacks have a peculiar mottled appearance, from the exhaustion of the chlorophylle, which at once betrays its presence. It is not confined to stoves, but is often quite as prevalent upon walls, or even in the open ground, occasionally destroying whole branches of the trees which it affects. It is especially abundant in dry weather, and in stoves in which the air does not contain a proper degree of moisture, and is far more easily prevented than cured. There are, indeed, remedies which are at once fatal, as the fumes of burning sulphur; but these, unfortunately, if strong enough to destroy the insect, often destroy the plant at the same time; or even if the plant does not suffer, the eggs are not affected, and in a few days the plague is as bad as ever. If the fumes of sulphur are used, it is quite astonishing to see the myriads which sometimes collect at the tips of decayed leafstalks, or on the leaves themselves, apparently not at all the worse for the discipline, if the fumes are not extremely strong. The proper course,

however, is not to *burn* the sulphur, as is practised by many gardeners with certain destruction to their plants, but simply to volatilize it, and if this is done in a damp atmosphere, the red spider cannot stand against it. It is difficult, however, to regulate matters nicely; the best remedy, therefore, is prevention rather than cure. Unfortunately, however, melons (which are peculiarly liable to be affected), require, in certain stages of growth, a dry atmosphere, which favors the development of the red spider, while it prevents or checks canker and mould. Constant syringing appears to be the most effectual means to this end, but as in other cases of disease, the very first symptom should be carefully regarded, and the remedy at once employed. When the leaves have once become mottled, they are not in a fit condition to perform their especial functions properly, and even though the syringing should be effectual in preventing any further mischief, it cannot replace the unhealthy with healthy tissue. Other remedies have been proposed, as strong tobacco smoke, turpentine, bruised laurel leaves, sublimed sulphur, a solution of soft soap; and favorable reports have from time to time been given of all; but, on the contrary, there have been as many records of failure, so that implicit confidence cannot be placed in any one of them.

DESTRUCTION OF ANTS.—To an infusion of one ounce and a half of sliced quasia woods, or shavings, in one quart of boiling water, add, when cold, about half a pound of honey or molasses. Place small flat saucers, half filled with the sweetened mixture, with short straws floated upon it, in different parts of the garden or conservatory, under shelter from the rain, and in such position as may facilitate the approach of the ants. These little creatures will soon discover the traps, the contents of which they greedily devour, despite the intense bitterness. The destructive qualities may be increased by the addition of about half an ounce of ferrocyanate of potash. Bee-keepers alone need be cautious of their stocks, for it is equally fatal to this kindred tribe of useful insects; but the danger may be avoided by a gauze or net covering to each saucer, with meshes wide enough to admit the intended victims, or a close-sieve may be used to cover the traps. To prevent them climbing trees, nothing is better than a ring of gas tar round the stem, which effectually prevents their mounting.

TO DESTROY WORMS ON GRASS LAWNS, ETC.—Of the many methods which have been recommended for destroying worms, corrosive sublimate is the most efficacious. By means of it, may be cleared a piece of grass from which it seemed almost impossible to eradicate the worms, the surface of it being always covered with casts, and looked most untidy; but for eighteen months after this was applied, scarcely a single cast was to be seen. Use the solution of the corrosive sublimate of the strength of one ounce to forty gallons of water, having dissolved the sublimate first in a little hot water, and thoroughly mixed it. The requisite quantity of each being prepared, the whole should be well stirred together, and commencing at one end of the lawn with the watering-pot, without a rose, let the surface be entirely flooded; if any part of the ground is missed, the grass will soon be as bad as ever with the worm-casts. Directly after the solution has been applied, the worms will make their appearance, which have always picked up. The dose may be made sufficiently strong to kill them on the surface, or even in the ground; but this is attended with danger to the grass, particularly on light soils. Picking them up is the best. If possible, the ground should be gone over a second time, after an interval of three or four days. Attention should also be paid to the state of the ground, which should neither be soaked with rain nor parched up with drought, but in a middle state. Great care is at all times necessary in using this deadly poison. It is also useful in destroying slugs, etc.

R E V I E W .

Hooper's Western Fruit Book. By E. J. HOOPER, of Cincinnati. From the press of Moore, Wiltstach, Keys & Co., 1857.

As a concise descriptive catalogue of fruits, the plan of this work is adapted to the purpose for which it was designed. Without entering into the minute and elaborate descriptions which enable the pomologist to identify varieties, it gives such prominent characteristics of each kind as will answer ordinary practical purposes of the cultivator.

We regret that the author did not designate the quality of each fruit by the epithets recommended by the American Pomological Society—"good," "very good," "best." This, however, will probably be done in a subsequent edition, at which time, no doubt, a careful revision will be made, and sundry errors (some of them typographical) contained in the present edition will be corrected. For instance, the Sheldon Pear is not a foreign variety, but a native of New York; Beurré Preble is stated (at page 125) to be "not very good," and (at page 130) as being "worthy;" Doyenné du Comice is printed "Doyenné de Cornice;" "Triomphe de Jordoigne" should be Triomphe de Jodoigne; "Carnel's Favorite" should be Cornell's Favorite; the "Bannet" Raspberry should be Barnet; the Cushing Raspberry is not of a "cream color," nor is the French; both are crimson varieties.

Welcoming as we do every attempt to impart reliable information on the topics treated in this work, we yet have a duty to perform to our readers; under this impression, we must be permitted to point out a few peculiarities of the author which it would have been well if he had avoided. Book making is evidently a new business to Mr. Hooper, and such being the case, he will probably not take amiss a few remarks that occur after an examination of his work.

However excellent the plan with which the writer set out, he has fallen into a rambling and confused mode of treating his subject which is anything but satisfactory. As an instance (at pages 160-61), in describing the "Glout Moreceau" Pear, we have an account of the "Winter Nelis" at more extent than the pear under consideration; on turning to Winter Nelis, very little is said about it, and there being no index, a reader anxious to know all about the latter, will have to search a long time to find what he wants.

Under the head of "Kirtland Pear," we are treated to the following rambling "remarks:"—

"Raised by Dr. Kirtland, of Cleveland, Ohio, a good pomologist, a man of very scientific attainments, and of versatile talents. *Texture*, fine, melting, juicy, and rich. *Flavor*, aromatic, sweet, and in the highest degree delicious. *Tree*, hardy and productive. Obtained from the seed of Seckel. Dr. Kirtland has been most successful in raising very valuable and delicious cherries from the seed (which will be noticed in their proper place), as well as some other fine seedling fruits. He is always indefatigable in the pursuits of horticulture and science."

Indeed, Mr. Hooper luxuriates on the Pear topic, and crowds irrelevant subjects under the descriptions, which should have been placed in a separate chapter. As an example, take the following, under the head of Seckel Pear:—

"'Best grafted on the apple (a singularity), reserving part of the apple branches, to give large size and flavor.' So says Mr. Gabriel Sleath, an experienced horticulturist and culti-

vator, and one of the pioneers of Cincinnati, on flowers and fruit, with Jas. Howarth, and, to be in good company, may I be permitted to add the author here?"

In naming the "*Doyenné Gris d'Hiver Nouveau*," the short description is eked out as follows. As it compliments our own labors, we ought to be satisfied, but why we are introduced in this particular place puzzles us a little; and we again have to regret that there is no index to point out to admiring thousands this brilliant gossip about the "*Winter Gray Doyenné*," which reads thus:—

"The Gray Doyenné is described, by Col. Wilder, in the *Horticulturist*, first established by Downing, and which leading work has also been well conducted ever since, by good theoretical as well as eminently practical men. It is now in good hands, and has, as it deserves, a large circulation, and still increasing, as may be expected from the gloriously growing interest in horticulture and agriculture in all parts of the Union. Men are beginning to get their eyes open, at length, to their highest welfare, happiness, and wealth. Fruit should comprise one-third of the human diet, at least."

Here we have, in half a page of "remarks" on the Gray Doyenné, Colonel Wilder, the *Horticulturist*, Downing, Barry, the present conductor, large circulation, horticulture, agriculture in all parts of the Union, men with their eyes getting open, human diet, good theoretical as well as practical men, welfare, happiness, and wealth, &c. &c. We ask Mr. Hooper if this is following good models of book making? and we ask him to place such remarks, in the future editions, in a preface, or, in fact, anywhere but in their present places. Another objection to its taking a position as a *Western Fruit Book*, will be found in its extreme local character. Everything is tested by "Cincinnati" experience; opinions are given as those of one section of Ohio only, and we are left to conjecture as to what will suit other "Western States." The time for all the rest of the great West, cannot be regulated by a Cincinnati clock. Mr. Hooper will do well to remember these particulars, which we mention in all charity, and as in duty bound. We have seen but one copy of the work, and this was accidentally picked up on the shelves of a public library, and sent out to us.

The few fruit illustrations are very creditable; the portraits of the Cincinnati *savans* we are less able to recognize. Surely, the expression of Mr. Longworth's face has been altered in the engraving process; Mr. Ernst we should not be able to distinguish; Dr. Warder looks well and young, and as active as ever. The fruits on the table around which those gentlemen are grouped, are more natural, but, as it was not the season, probably, there is an omission of the strawberry, pistillate, and staminate, for which this part of our parish is so famous, and where, while we write, this pleasant febrifuge is doubtless in its usual abundance.

PICKLING WALNUTS.—A lady of great experience in such matters, gives the following receipt for *pickling walnuts*: "Gather them dry, prick them through with a large pin two or three times, put them into salt and water, shift them every three days for a fortnight, put them into a sieve, and let them stand a day in the air, and then put them into an earthen jar. Boil as much vinegar as will cover them well, pour it boiling hot over them, let them stand three days, then put them into a sieve, and let them stand in the air another day; then take to every quart of fresh vinegar that may be wanted, half an ounce of black mustard seed, half an ounce of horseradish cut into slices, a quarter of an ounce of long pepper, three cloves of garlic, a dozen cloves, four or five pieces of raw ginger, and a few eschalots; boil these ten minutes, and pour it boiling hot over your walnuts; let it stand a fortnight, then put them into bottles corked close, and cover the corks with resin. They will keep for years."

EDITOR'S TABLE

THE WEATHER.—On this fruitful topic, we may say, that up to June 22, we have had, in this region, a truly *rainy season*, such as many believe exists in the tropics. There have fallen, up to the above date, in the past month, 7.01 inches of water; and, in May, we had 6.43 inches, making nearly thirteen and a half inches in two months—notwithstanding which, the prospect of fruit continues good. Strawberries have been abundant and dear. Cherries were injured with the wet, and rotted on the trees. The summer and autumn fruits promise well.

In May, 1855, rain fell to the depth of 6.53 inches, and in June, of the same year, 8.07; in July, 6.50. In 1855, this great amount of rain was followed by an arid summer, which it may be well to provide for the coming season.

TRIAL OF REAPERS, MOWERS, ETC.—The first national field trial of reapers, mowers, &c., by the United States Agricultural Society, will come off at Syracuse, New York, the present month, and is looked forward to with great interest by farmers and inventors. The exact date is not ascertained when we write, but July 6th to the 13th is named; the precise time was to be fixed as soon as it could be ascertained when the crops would be ready for the harvest. We since learn it is the 13th.

THE FIFTH ANNUAL FAIR of the United States Agricultural Society will be held at Louisville, Ky., during the fall, and will embrace “a national trial, in the field, of agricultural implements and machinery.”

FRUIT-TREES.—The *New York Journal of Commerce* says: “The importations of foreign fruit-trees and seeds, this spring, now nearly over, are estimated to have been at least fifty per cent. in excess of those of any former year; and this branch of horticulture is fast acquiring importance. The destruction of trees by the severity of the two last winters, and the rapid settlement of Western lands, but more than all, the encouragement to the culture of domestic fruit afforded by the formation of numerous agricultural societies throughout the country, have given an impetus to this business which is quite unprecedented. Trees are imported in bales and cases, chiefly from France, England, and Scotland; and seeds are invoiced by the ton.”

THE LATE WINTER, ETC.—A valued correspondent says: “I would advise you to repeat your trip to Cuba next fall, to get away from our Nova Zembla winter. The last exceeded all in my memory. It has actually killed several of the oldest paper-mulberries in Newark, N. J., streets, and at Astoria, N. Y., I observed no indication of life in two venerable catalpas which must have braved thirty or forty winters, facing N. N. W.

“My last advertisement *paid* well, for many orders referred to the ‘*Horticulturist* for April.’”

Gossip.—The foreign papers say that Messrs. Schroeder and Dusch make it apparent that meat may be kept fresh for a long time in filtered air. The filtration is effected by very simple means, namely: panels of cotton wadding to the safe or closet in which the meat is hung. Butchers' meat has risen to so extremely high a price in Paris, that there has been some talk of the Imperial Government undertaking to sell preserved fresh meat at a reasonable rate.—A new yam, as it is called, has been sent from Mexico to the Académie at Paris. It is of prodigious size (two mètres fifty-one centimètres long, eighty-nine centimètres circumference), and weighs eighty-six kilogrammes. Some of the academicians say it is rather a rhizome than a root; not a yam, but a hitherto undetermined vegetable (perhaps a *dioscorea*)—a question to be settled by botanists. In Mexico, as we are informed, it is not at all uncommon for the roots to grow to a length of four mètres. They are a palatable article of food, notwithstanding their size.—Macbride's flax scutching machine cleans more than five hundred pounds of fibre in ten hours, and when driven to the utmost, will turn out nine hundred pounds in the same space of time. Compared with hand-labor, there is a gain of more than half in favor of the machine—at least, so say the initiated.—Mr. R. Errington, a name well known to gardeners, says, in a late article on peach pruning, "there is no occasion for much fuss about it. Trees have been repeatedly seen bearing better crops, badly pruned, than those which had received the most scientific knifing. This, however, does not prove that pruning is quite immaterial, but that it is not the 'keystone' of the arch. Young peach-trees, as soon as they have grown one year from the bud, are termed 'maidens.' They have one straight shoot, with generally a few side-spray. Below this latter are generally four or five dominant side-buds which have never sprouted, and the pruning knife is generally entered immediately above these. In the second year, the tree sprouts from three to five shoots, according to its power, and these are pruned back in the rest season for a double reason—to remove ill-ripened portions, and to cause the tree to branch more, in order to cover the wall. Henceforth, the thing gradually assumes the character of a fruit question rather than one about wood, and the business is, that whilst every regard is paid to the bearing wood, attention is also given to a proper succession of wood shoots."—A letter writer, addressing the U. S. Patent Office, from Kerr County, Texas, expresses surprise that that department has not noticed the pecan-nut, which grows abundantly in Texas. About 200,000 bushels of the nut have been exported from that State to Europe and elsewhere, producing \$400,000. One tree will often produce from fifteen to twenty bushels, worth from \$30 to \$40.—A pretty philosophical toy is exhibited in Philadelphia. It is a toy balloon, and is a Paris invention, made of India-rubber, filled with common burning gas. The levity of the gas carries it up to the top of the window where it is exhibited, when it rebounds and descends again, keeping up this motion continually. The invention is better than a kite, for it depends upon no current of air to make it ascend, and it can be fastened by a string to a child's hand, or the button-hole of his jacket, and be made to follow all his movements.—The California Agricultural Society speaks of a remarkable case of success in the product of the bee: Mr. Briggs, of San José, brought out with him, the last year, from the States, a large swarm of bees; from this one swarm, *eight swarms* were hived the first season. There is no parallel case to such a product on record, and the same prolific character is manifest in all natural history there as well as in the products of farm, grain field, and orchard.—The Committee who report to the Society, went to see a Spanish Don, and there they found the following matter of interest to relate: "A two year old grizzly bear, having been caught in the barley-field the night previous to our arrival, the natives belonging to the establishment amused themselves, just after we came up, by tying the fore-leg of a bullock to the hind-leg of the bear. After sundry tossings and huggings, while we were faring sumptuously at the table of the Don, his bearship, we were informed, took just *one horn* too much, and died from the effect of an extemporary

bowel complaint."—The application of gas to cooking has been made with success in this country, and for heating small greenhouses, it is believed to be valuable. In England, neat library tables are made with hot-water pipes beneath, which add greatly to the comfort of a room; they may be heated from the kitchen fire.—A border of high or standard roses is improved by planting among the stems mahonias; the bareness of the border and lower parts of the stems, is thus taken off, as it is thus effectually filled up with foliage.—The Emperor fountain at Chatsworth is of such force, that it is calculated the water escapes at the rate of a hundred miles per minute, rising to the height of two hundred and sixty-seven feet.—During inclement spring weather, many stocks of bees in common hives require feeding more abundantly than can be accomplished by pipes of elder and other primitive contrivances. A good plan to feed stocks in the common bell-shaped hives, is to cut a small hole in the top, drive three flat-headed nails around it, standing up half an inch; on these lay a piece of empty comb, the upper cells of which can be filled with syrup, and the whole covered closely with an empty hive. The bees will readily take down a pound of syrup a day. When not required, a cork secures the hole.—The rose Isabella Gray, from this country, has become a great favorite abroad. It is tea scented, and they say of it, "a real yellow rose at last."—At a late London exhibition, a gardener exhibited a fruiting branch of the Royal George Peach, from a tree fifty years old. At the same table were two glazed plates of singularly beautiful *anatomized leaves*, prepared and painted on by Lady Dorothy Nevil. This is a new process, by which the web between the veins is not destroyed, but looks as if the leaves were first divested of the outer skin or covering, and the rest bleached white like a piece of bladder, with the mid-ribs and all the veins as distinct as if the web was destroyed. On these bleached leaves her ladyship painted various beautiful designs and writings, which were much admired.—If you have not a blind to protect your camelias from the sun, melt some jelly *size*, with scarcely any water (say half a gallon of it), and use, say half a pint of water. If you have not jelly *size*, use glue or other size, so as to make a strong solution. Into that quantity, place about the size of a walnut of whitening, half a drachm glass of turpentine, and as much boiled linseed oil. Stir it all well together, and, when very hot, draw it over the glass when dry, and, if possible, when the sun is shining. This, put on outside, will remain until the heavy rains of autumn help to loosen it. Placed inside, it will remain longer. If daubed with a dry brush as put on, it will look like rough glass. A little soda in water will soon remove it when that is necessary.—At the Duke of Devonshire's garden is an extensive peach-house, almost wholly filled by one tree, from seventy to seventy-five feet in the spread of its branches, and from seventeen to twenty feet in height; and it may, indeed, be termed the perfection of a peach-tree, for its size is only equalled by the quantity of fruit it produces—from seventy to eighty dozen annually.—Prof. Henslow's *Dictionary of Botanic Terms*, commenced several years since in Maund's *Botanist and Botanic Garden* (but, we believe, not completed there), has now appeared in a separate volume, published by Groombridge, London.—The nursery established in Algeria by the French Government, at the instance of the Société d'Acclimation, prospers with some of its productions. Three plants of Caoutchouc (*Ficus elastica*), brought from Coromandel twelve years ago, are now "nearly ten mètres high, and eighty centimètres in circumference at one metre from the ground, and the branches, extending horizontally, cover a great space." These trees were tapped in 1855, in order that specimens of Algerine Caoutchouc might appear in the Paris Exhibition. The *Croton sebiferum* (from China) is also successful, having begun to yield fruit, and the sugar-sorgho. "This latter plant," says M. Hardy, the director, "secretes on the surface of its stalks, at full maturity, a white resinous powder, from which candles could be made. A hectare of sorgho gives more than a hundred kilogrammes of this substance." As yet, the attempts made to acclimatize wax and tallow-bearing plants, the gutta percha and Peru-

vian bark, have failed.—There is a project for starting a manufactory of perfumes in Algeria, originating in M. Millon's ingenious researches. In a description of his process, we are told that, "to avoid the alterations which flowers undergo on drying or distillation, he separates the aromatic part by dissolving it in a very volatile liquid, which is afterwards expelled by distillation. With such a solvent, the distillation is attended by no inconvenience, for it may be performed at a low temperature." The best solvents are ether and sulphuret of carbon. "Properly managed, there is very little loss of the solvent, and the distillation is rapidly performed, much more rapidly, and with a larger quantity of leaves and flowers, than by the ordinary method. But the gathering of the flowers should be done at the proper time of day for each flower. Thus, the carnation gives off its perfume after an exposure of two or three hours to the sun. Roses, on the contrary, should be gathered in the morning as soon as well open; the jasmine before sunrise." By this process, the perfume becomes isolated, and may be kept exposed to the air for years without alteration. The project becomes important by the side of the fact, that the annual value of the perfumes exported from France is 30,000,000 francs.—The Institute of British Architects announce, as subjects for future prizes: "The Application of Wrought Iron to Structural Purposes;" "The Influence of Local Materials on English Architecture;" and they promise a tangible honor "for the best design in not less than five drawings, for a marine sanitarium, or building for the temporary residence of a limited number of convalescents belonging to the middle and upper classes of society." The Institute do not confine themselves to the merely useful, as Mr. Papworth's paper lately read before them, on "Beauty in Architecture and its Alliance with the Past," abundantly testifies.—Certain agricultural chemists in France have discovered that pounded glass is profitable in cultivation of the land; and M. Paul Thénard is making experiments, on a great scale, with the pulverized slag of blast furnaces. This slag he believes to be equivalent to feldspathic rock, and eminently attackable by the agents present in the soil and atmosphere; for the constituents are silicates, anhydrous potash, and iron. He has set up the necessary machinery for pulverizing the stubborn lumps, and promises to publish his results as soon as they are justified by practice. Should they confirm the results obtained on a smaller scale, what an opening there will be for a new branch of industry, in the preparation of a fertilizer from heaps of refuse at present regarded as a nuisance!—Meteoric stones lead to the strong inference that the materials of the moon are exact representatives of our system; for up to the present time, no element has been found in a meteorite that has not its counterpart on the earth; we certainly have the proof, at least as far as we may ever expect to get it, that some materials of other portions of the universe are identical with those of our earth.—*Friga Domo* is the name of a canvas sold in England, prepared from hair and wool—a perfect non-conductor of heat and cold, keeping a fixed temperature. It is adapted to preserving fruits and flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frost. It is two yards wide, and may be had of any required length, at about thirty-seven cents per yard run. It would be well for some of our seed-store men to introduce it.—Prof. George Wilson, of Edinburgh, writing on the physical sciences, happily remarks: "A cattle dealer will give you one calf which shall certainly, in course of time, prove a bountiful yielder of milk and cream; another, which shall as certainly be a fatted ox when three years old; a third, which shall by-and-by be a match for a horse at the plough. The Yorkshire broadcloth makers choose by preference the long-stapled wool of sheep fed plentifully upon artificial grasses, turnips, and the like. The Welsh blanket makers, on the other hand, prefer the shorter wool of sheep cropping the natural grass of the hills; whilst the Scotch tartan shawl weavers work only with Australian or Saxon wools. In like manner, the comb-makers will tell you that the farmers are injuring them, by multiplying breeds of cattle which quickly fatten, and are, in consequence, killed before their horns are well grown;

and those same industrialists will curiously distinguish between the tortoise-shell from one region of the sea and that from another. I should never end, were I to pursue this matter." Let those illustrations suffice to show that living organisms are not only industrialists like ourselves, and, in many cases, more skilful artists, but are also machines and apparatus which, within certain wide limits, we can wield at will.

GROUPING AND BLENDING.—"There are few things," says a recent writer, "requiring more careful consideration, prudent forethought, and a clearer perception of ultimate results, and the grouping and blending of these with surrounding circumstances, than the fixing on sites for gardens, mansions, and ornamental buildings. For want of a thorough appreciation even of the minutiae of detail, the greatest artists have sometimes committed great errors, so great that the humblest man, without a hundredth part of their genius and intelligence, cannot but perceive them. Hence we find gardens that cannot be supplied with water but at an expense that sets adrift all the maxims of a severe economy; and others, again, from which early productions are expected, inclining to the north, and in a position where they are sure to be visited by early autumn and late spring frosts. Hence, again, we find mansions at times from which the finest views of the surrounding scenery are excluded, as if on purpose they should merely be seen from some sequestered corner of the demesne; or we find a beautiful lake, formed at great expense, but holding such a relative position to the mansion that the residents there must ascend pretty well to the roof before they are cheered with the expanse of its calm or rippling waters."

FUCHSIA TREATMENT IN AUTUMN.—Place your fuchsias where they will be safe from frost, cutting off part of the weaker points of shoots, and keeping the roots dryish. About March, or the end of February, prune back the shoots to short or long spurs, according as you want your plants to grow upright in the bush, or wide at the bottom, in the pyramidal form. If naked at bottom, unless you wish to make standards, you had better cut down altogether, and get a fresh, strong shoot to start afresh with. Water a few days after pruning. When the young shoots are coming away freely, and from one to several inches in length, repot, by getting rid of a good deal of the old soil, and replace in clean, similar-sized pots. If the plants are young, they will want larger pots in about six weeks. Rich soil and manure-waterings at times will then give you abundance of fine flowers.

ANSWERS TO CORRESPONDENTS. SEEDLING EVERGREENS.—"Inquirer," by reference to McMahon's *Gardening*, will find his advice differs from many others; but there can be little doubt he is right. He says: "The true method of treating seedling pines and firs, is frequently during the summer months, as they advance in growth, to sift some loose earth over them in the seed beds till it comes up to the seed leaves, by which the stems are protected, shortened without disturbing their roots or checking their growth; it tends, also, to keep the moisture confined to the earth, by preventing its too sudden evaporation, and the loose sifted mould attracts the dews and imbibes the rains, when such fall, by which means the plants are kept cool, moist, and in a constant growing state." By this treatment, much better plants may be grown than by removing them from the seed beds too soon.

TRIMMING BOX-EDGINGS.—June is a proper time to trim box-edgings, but early in July will still answer. Take advantage of the first moist weather that occurs after the middle of June; for if done in dry or parching weather, they are apt to turn foxy, and thus lose much of their beauty. Neat cutting, even at top and on both sides, and two or three inches high, and two broad, is sufficient. Higher than this and broader, they assume a clumsy appearance, and deprive the beds and borders of that apparent roundness so necessary to set them

off to advantage. Clip again early in September, as before, in moist weather, and the plants will put on a fresh appearance before winter.

STRAWBERRIES.—I have always regarded the distinction of the sexual character of the strawberry as being important in selecting plants for a successful bearing plantation. Wishing to plant, I went to the Clifton Nurseries, near Cincinnati, and procured of one of the proprietors a small lot of plants, consisting of McAvoy's Superior, Burr's New Pine, and Large Early Scarlet. At another place I procured Hovey's Seedling. I also visited Mr. Longworth's garden, where I received some of Longworth's Prolific. Now, there are five kinds, and how did they turn out? I planted them in separate rows. Hovey's Seedling and McAvoy's Superior, both bore pistillate flowers, as I expected. The row that was to be Large Early Scarlet, instead of bearing staminate, also bore pistillate flowers. The row of Burr's New Pine bore part pistillate and part staminate, and, the strangest of all, Longworth's Prolific (hermaphrodite) bore all pistillate flowers. Now, we do not like to accuse nurserymen who profess to do business on correct principles of dishonesty or stupidity. But Mr. Longworth's own favorite Hermaphrodite—what shall we say? Has it changed sexual character, or is there a mistake in his own garden that his head gardener is not aware of. Who can explain?

In forcing the strawberry under glass (there being no insects to carry the pollen from the staminate plants to the pistillate), it is a burdensome task to have to do it by hand; will the Hermaphrodite therefore fructify, having both organs perfect? If the editor will append a note of explanation, he will confer a favor on a subscriber and a tyro in horticulture.

C. LEGG, M. D.

It is of considerable importance to regard the sexual differences of the strawberry. A pistillate strawberry plant will produce fruit occasionally when quite beyond the reach of pollen from the staminate, but, only so far as our observation goes, when the plants are in very favorable circumstances, and even then, are usually deformed, and inferior in size to properly fertilized specimens.

There is usually a considerable degree of constancy in the sexual character of the strawberry, but there is nothing improbable in the idea of its changing occasionally; no part of a flower is so liable to change its form as the stamen. A pistillate blossom is nothing more than a hermaphrodite, with the anthers abortive, which nature evidently intended should be fully developed if circumstances should so favor. As a rule, regard the sexes as constant, but be prepared to admit the exceptions.

(W. E.). The best American book on insects is, undoubtedly, Harris's—published in Boston. Fitch's *Reports*, published at Albany, are also valuable, and Westwood may be consulted with advantage. For the birds of America, Wilson and Nuttall. The prices you must ascertain from the booksellers. Wilson's great work may be procured in octavo. Audubon, we need scarcely name, as you must be familiar with its value.

(A LADY SUBSCRIBER, Virginia). Ferns will probably be your best plants for rock-work, provided it is shady and moist. The new vervain-leaved verberna, *Imperatrice Elizabeth*, is admirably adapted, as are the other kinds also. The beautiful little ivy-leaved antirrhinum, called the Wandering Jew, will grow well, and be highly ornamental. Vines of many kinds should be mixed among the other plants, such as are known and accessible. The "Clover Hill Seedling Strawberry" is not cultivated yet for sale, that we have heard of.

"THE MOST MAGNIFICENT."—We scarcely can say, but, as we write, we are inclined to give the preference to the leaf and flowers of the *Magnolia macrophylla* (large-leaved *Magnolia*) as the most magnificent objects in the floral adornments of June. Specimens from this perfectly hardy tree are before us—the flowers literally as large as a bucket; the tree from which they were taken is twenty-five years old.

(A. B. B.) You will find Swift's Lawn Mower advertised in previous numbers. Address the maker, Fishkill Landing, New York.

CHERRIES.—There is no better guide to the trimming and pinching of cherry-trees than Barry's *Fruit Book*, and, generally, we may say with a neighbor: "It is about the only book that can be generally understood."

THE GOLDEN HAMBURG GRAPE, which it was expected would have been offered to the public last fall, has not yet been "let out," but Messrs. Veitch, of England, advertise it as to be ready on the 15th of this month (July), price twenty-one shillings each—"one over or three to the trade, with special terms when twenty-five and upwards are ordered at the same time." There is no doubt of its great value. It is a superb fruit, and the advertisers, who are backed by the awards of numerous societies, say:—

"In hardness of constitution, freeness of setting its fruit, size of bunch and berry, and fineness of flavor, it is equal to the Black Hamburg, with the distinction of being, when fully ripe, of a beautiful amber color, thus at once showing it to be a first-class fruit, altogether distinct from all other light-colored grapes, and well adapted either for a greenhouse or for forcing."

CATALOGUES, ETC., RECEIVED.—Godfrey's Narrative of the Last Grinnell Arctic Exploring Expedition. Philadelphia, 1857. Quite an amusing account.

Circular of Sheppard's Forwarding and Commission Horticultural Nursery and Seed Agency, 159 Front Street, New York. A novel and important business.

Carolina Sports, by Land and Water, including Incidents of Devil Fishing. By the Hon. Wm. Elliott, of Beaufort, S. C. Second edition. This is a most spirited account of sports as new to the world generally as they are graphic and entertaining. Written by a scholar and a gentleman, with every appliance at hand, we are free to say the sketches equal anything penned by the celebrated English writer, "Nimrod." Why it is not more known at the North is a mystery to us, though printed in New York at the Steam Power-Press of Trehern and Williamson, 47 Ann Street.

Report to the Governor of South Carolina on Algerian Cotton Culture. By the same author.

The Elliott Letters of Agricola. By the same author.

Address to the Imperial and Central Agricultural Society of France, read before them at Paris, July 4, 1855. By the same, Commissioner of South Carolina to the Universal Exhibition. Mr. Elliott read this in French, if we remember rightly, and was complimented on its purity of diction, and his perfect pronunciation of the language.

Premiums and Regulations for the Eighth Annual Fair of the Warren County (Ohio) Agricultural Society, September, 1857. We note, with thanks, numerous premiums here also, of volumes of the *Horticulturist*.

Supplement aux Catalogues de Vilmorin-Andrieux & Cie., Quai de la Messagerie, 30, à Paris.

Prix-Courant de Louis Van Houtte, Horticulteur a Gand (Ghent) Belgique, 1857.

FLOUR OF SULPHUR A CURE FOR THE MILDEW ON THE GRAPE.—It is wondrous strange that the savans of Europe have just made this discovery, when it has been published in this country over twenty years. I believe, first in the *American Flower Garden Directory*, in 1832, and known now by every American garden laborer, though our vines are occasionally touched by the method of its application. Allow me to give you two. First. Our sulphur water-tub is always filled, and ready on call. We take a piece of stone lime (about four inches square); place it in a tub; put over it four gallons of boiling water; cover it over with a thick cloth; allow it to boil a few minutes; then stir the lime and sulphur freely,

to a paste, and add about twenty gallons of cold water, allowing the whole to settle. When settled, we take the pure amber-colored water, and syringe any article that has symptoms of mildew. Patrick had charge of two of our houses. I directed him to syringe certain plants with sulphur-water. He kindly stirred up the whole, and gave them a good coat of lime and sulphur! Such a sight! "Why, Patrick, where did you learn that method?" "Indeed, sir, that's the way we do in London." Another way they do in London, is to dust sulphur all over the plant and fruit. This is filthy in the extreme.

Now for the American way: Take a few pounds of sulphur, and place it on several pieces of boards, as neatly as you please: keep them in your grapery, stirring the sulphur once a week, and you will have no mildew, unless you give heavy waterings, and allow cold currents of air.

Yours, &c.,

ROBERT BUIST.

PRUNING, AND OTHER MATTERS OF INTEREST. (*A letter not intended for publication*).—J. JAY SMITH, Esq.—DEAR SIR: All plants that are deciduous are not dormant, in the literal meaning of the word. Even in winter, plants derive nourishment from the soil, and are constantly adding to their substance. It is also a well-known fact, that the greatest flow of sap is towards the extremities of the branches: or, rather, the sap is elaborated and solidified first at the extreme joints. When pruning is deferred until spring, much of the matter gained during the winter is cut away and lost; hence the practice of deferring the pruning of very luxuriant trees until just starting into leaf, with a view of weakening the growth. But, when pruned in the fall, it will be observed that the buds nearest the end, just below the cut portion, will swell up prominently during winter, will burst out more vigorously in spring, and grow more luxuriantly, than they would have done if similarly pruned in spring. I consider it a very important point in hardy grape culture, for our seasons are not too long for the proper elaboration of wood, and the gain of a week or two in growth is of importance. I have satisfied myself, in practice, that there is much to be gained in the growth of shoots by this method of pruning.

I am deterred from stating my honest belief on many things, because they are so much opposed to existing practices, as would make them be considered absurdities. I have always advocated low night temperature in forcing and greenhouses—indeed, all structures for plant growing—and have been *talked to* about it by practical gardeners; although I have never yet advocated it to the extent that I have practised it.

I have had foreign grapes in flower with the thermometer at the freezing point; gardeners would go crazy if the thermometer went below 50° at that time. I have allowed my pineapple pits to fall as low as 40° in wintry nights; 60° is the lowest any *rational* gardener thinks of; yet these very men would praise the sturdiness and healthfulness of my plants. I have been in the habit, these last five or six years, of letting my greenhouse fall down to 35° every night—frequently to 29°: yes, I have had 4° degrees of frost inside, where there were *orchids*, *stove plants*, and *hothouse* plants, of the most costly and best sorts. I never could get *Camellia* blooms seventeen inches in circumference, nor Chinese *Primroses* two inches in diameter, until I adopted that course; but then, there must be a corresponding treatment; plants must be brought into a state to stand this treatment. Suppose any one in the habit of keeping up a high night temperature, were to adopt it suddenly; he would kill his plants in one night.

The same with soil. I have not, these last six years, used anything but fibry loam for potted plants, no matter where they come from, or what they were. Gardeners will tell you that they cannot grow *heaths*, *epacris*, &c. &c., as in the *old* country, because they "can't get peat" here.

I have had as good *heaths* growing in loam as ever I had in *Wimbledon* peat, or even in peat that I have gone myself and selected on *Wimbledon Common*; and I know what it

is to grow these plants. I had under my charge one of the best collections in England; for individual specimens they were not surpassed. One of the best practical gardeners in America, on seeing my heaths in Maryland, said he never believed, until then, that they could be grown here.

Even in cultivating the soil, I almost indorse Jethro Tull, who insisted that stirring the soil was all the manure it required. The thing seems quite reasonable, when we look for a moment at the structure of plants. Just look at that desk before you: it seems solid and ponderous enough. Throw it into the fire, and see how quickly it will "end in smoke." "The things that were Caesar's are rendered to Caesar." It has gone into the atmosphere from whence it came, and you may reasonably suppose that the tree that produced it was more indebted to the air than the earth. Depend upon it, we "know nothing" about cultivation yet. But it is too early to advance *extreme* views; they are looked upon as altogether out of reason.

And yet, when Hugh Miller (author of the *Foot-Prints of the Creator*, the *Old Red Sandstone*, &c.) mentioned to Professor Agassiz that some of his opinions relating to his discoveries, seemed to himself so extravagant that he was afraid to communicate them, Agassiz replied: "Do not be deterred, if you have examined minutely, by any dread of being extravagant. The possibilities of existence run so deeply into the extravagant, that there is scarcely any conception too extraordinary for nature to realize."

I have written a long letter, when I only intended half a dozen lines.

Very respectfully, S.

PEABODY'S SEEDLING STRAWBERRY.—A very exquisitely prepared tin box, with breathing holes, reached us on the 9th of June, and proved to contain specimens from Mr. Peabody of his ripened strawberries. We can readily understand his remark, that the late frosts materially damaged this fruit, and curtailed its size, for we saw the results of the cold when recently in Georgia. Their flavor, beauty, and keeping qualities, were, however, uninjured, though they had travelled six miles from Mr. P.'s grounds to Columbus, in a wagon, three hundred miles thence to Savannah, and some eight hundred miles to Philadelphia, by steamship. A large party partook of these berries, and pronounced the flavor excellent, though, of course, disappointed with the size, from the cause above stated. It will require another year to enable growers to decide on that.

THE MARYLANDICA STRAWBERRY.—One of the finest strawberries, if not the very finest, we have ever seen and tasted, comes from Samuel Feast & Sons, of Baltimore. It is the berry that took so many premiums in the hands of the late Dr. Edmondson, who would never part with a plant. Messrs. Feast have the control of the whole stock, and we advise cultivators to look after it at once. These strawberries are entirely different from any other we know; the vines are very strong; leaves, dark and glossy; many of the berries have a footstalk from five to six inches long; fruit, very large, often flattened, solid, and firm, bearing transportation remarkably well. The interior is perfectly beautiful, cutting almost as solidly as a pear, without any toughness; well colored and luscious, requiring less sugar than most. We pronounce them invaluable.

HARRISBURG, PA., June 16, 1857.

DEAR SIR: I send you by express a plant in bearing, and a cluster (separate) of the Scarlet Magnate Strawberry. I have selected about average specimens; might have selected some larger, but very few smaller that were ripe. None of them are fully ripe yet, owing, perhaps, to the soil being too rich. My plants have been grown entirely too closely—so closely, as to crowd each other. Though several hundreds were removed, they still stand

as stated. They have also been rather neglected, in other respects. (But for these circumstances, I think the berries would have been much larger.)

Mr. Gross, of Harrisburg, obtained a few plants from me, late in the spring. Last week, he took from them about a dozen berries, measuring from three and one-half to four inches in circumference.

Altogether, I consider the Magnate a very desirable berry. I have it growing side by side with Hovey, British Queen, Alice Maude, Scott's Seedling, Longworth's Prolific, and McAvoy's Superior, and taking into consideration all desirable qualities, I greatly prefer it to any and all of them. It has even equalled Hovey with me, in size, besides being, I think, better flavored, a much better bearer, and uniform in size. In fact, it appears as if there will be *no small berries*.

Respectfully yours, H. A. MISH.

NEW AND DESIRABLE PLANTS.—We have received from Mr. R. Buist two boxes of plants that deserve attention. Accompanying the boxes was the following, as usual, laconic note:—

ROSEDALE NURSERY, PHILADELPHIA, June 10, 1857.

"MR. J. J. SMITH.—DEAR SIR: I sent you (yesterday) a few items; some of them, I know you have, but they are yet scarce, and you may find room for duplicates. Others, which are acquisitions, I know you have not, and editors are expected to have and know all things.

Yours, truly, R. BUIST."

[We wish you may never be disappointed.—Ep.]

We are particularly pleased to receive some of these beautiful objects—the violet *Wistaria* especially. The *Pelargoniums*, for which Mr. B. is famous, are superb. But the list shall have remarks appended, and here it is:—

Poincæana Gilesii. Stood the winter of 1855, and bloomed freely in a dry, warm exposure.

Verbena Mrs. Woodruff. A most dazzling beauty.

" *Imperatrice Elizabeth*. Already strongly recommended for its beauty and novelty of leaf.

Glycine violacea. Quite hardy, quite new, and very valuable.

Phygellus capensis. New, admired by Hooker. Have not seen it in bloom here yet.

Veronica variegata. Superb.

Juniperus oblonga pendula. Quite hardy, as we are informed.

" *Bedfordiana*. Do. do.

Rosemary-leaved Boxwood. Hardy.

Viburnum plicatum. Hardy, fine, pure white.

Vitis variegata. A climber; has red, purple, and blue fruit, which we have not yet seen.

Berberis Danonii. Stood the winter of 1855-6-7; golden yellow.

Thuja decurrens. They are very distinct; the latter will most probably be hardy.

" *gigantea*. Do. do.

Saxe-Gothæa conspicua. A yew from South America; hardy.

Wellingtonia gigantea. Mr. Buist thinks this quite hardy, and that it should be planted in good loam. The English are killing it with peat; some of them suppose our oaks grow in peat.

Pelargonium (fancy) *Jenny Lind*. Pretty pet plants for the ladies.

" " *Calabrian*. Do. do.

" " *Burk*. Do. do.

" " *decora*. Do. do.

" *Kulla*. This has the new feature of a spot on each of the under petals of the flower.

" *albira*. Do. do. do. do.

" *Lagoma*. Do. do. do. do.

Geranium Auber Henderson. New, white.

" *Bishop Stow.* New, scarlet. Both first-rate in their class.

Achimenes Ambrosie Verschafeltii. New, striped.

WASHINGTON CITY, D. C., June 11, 1857.

MR. EDITOR: I send you this day, by express, fruit of "Vicomtesse Hericaut de Theury" Strawberry, that you may see its character a second season. The descriptions then given will hold good now. "Fair size, bright color, firm flesh, and exquisite flavor;" the latter quality may be somewhat injured by late heavy rains. The weight of any given quantity of the fruit will be found much greater than a like quantity of Hovey's Seedling. Its foliage sustains no injury in the hottest weather, and the intense cold of last winter it passed through much better than any of the native sorts grown side by side without protection. In fact, I am better pleased than ever with the strawberry, and other good growers in this vicinity think quite as highly of it.

Respectfully yours, JOHN SAUL.

[Received in good order. We have nothing to say against this berry, which has succeeded well in our own grounds, from plants sent by Mr. Saul. It is among the best.—ED.]

DE KALB CHERRIES.—In Georgia, the De Kalb Cherry has been remarkable for the regularity with which it produces a crop. We remarked the circumstance of all the De Kalb varieties looking very healthy at Mr. Peter's garden in Atlanta, where all the other cherries were ruined by the uncommon frost of March last. Mr. Peters has taken the trouble to forward specimens, which arrived in good order, accompanied by the following note:—

DOWNING HILL NURSERY, ATLANTA, GA., June 10, 1857.

"DEAR SIR: We ship you this morning, per express, a small box of the De Kalb Cherry, by which name it is known here. We regard it as a valuable cherry, not so much for the superior quality of the fruit, but as a free and never-failing bearer. It has been known here about twenty years, and has never failed to produce an abundant crop. The present season, every De Kalb Cherry-tree on our place is loaded with fruit, and among our collections of cherries (which is quite extensive), *not another tree* has produced a single specimen, all having been killed by the frost.

Yours, very respectfully,

PETERS, HARDEN & Co., Atlanta, Ga."

GRAPES.—An editor fed upon forced sweet grapes, could scarcely be expected to grow sour. Several parcels, and baskets, and boxes of delicious hothouse grapes, have the express-men delivered at our door the past month; *such* grapes as only can be grown in America, and, we must say it, as are rarely grown, except at the North, where the cold is of so long continuance as to make in-door culture of fruit a necessity to the wealthy. We dare not particularize, but will go so far as to say, some of these pearly festoons are from graperies described in the *Horticulturist*, and from friends who will receive this as it is meant—a memento of grateful remembrances. The Hon. William Elliott, in his capital sketches, called *Carolina Sports*, says a truth which may be applied to grape and orchard houses, when he exclaims over the haunches of three saddles of venison, and a wild turkey of his own shooting: "My young sporting friends, a word in your ear: the worst use you can make of your game, is to eat it yourselves!"

SALE OF ORCHIDS.—A fourth portion of Messrs. Loddiges' orchids, and also the collection of a "well known amateur," have been brought to the hammer, in London. Of the prices they realized, the following are a few of the more important: *Aerides Schröderi* brought

£31 10s. ; *A. quinquevulnera* (the best variety), £15 15s. ; *Cobolgyne Lowi*, £22 1s. ; *Vanda violacea*, £20 ; *V. suavis* (Veitch's variety), £15 5s. ; the larger variety of *Saccolabium guttatum*, £17 17s. ; *Dendrobium Dalhousieanum*, £12 ; *D. Farmeri*, £8 ; *Phalaenopsis amabilis*, £13 ; *Angraecum caudatum*, £9 ; *Cattleya spectabilis* (a kind in the way of *marginata*), £11 ; *C. labiata*, £10 10s. ; *Cypripedium caudatum*, £5 5s. ; *Laba grandis*, £5 10s. ; and *Oncidium Lanceanum majus*, £5 5s. ; other lots fetched from 10s. to £3 per lot.

ORNAMENTS.—Rustic stumps and baskets are highly ornamental, when kept in perfect trim. Few things look better in front of a cottage than a basket on a pedestal of unbarbed timber; the basket itself woven of stout willows, or made from well selected pieces of tree leppings—the hazel, especially. In the fall, such a basket might be filled with bulbs, and covered thick with leaves in the winter. When these come out, it may be furnished with showy annuals, or a mixture of half hardy shrubby exotics. The plants best suited for

summer blooming in rustic baskets, and on hollow tree stumps, are fuchsias, calceolarias, geraniums, hydrangeas, petunias, cinerarias, China roses, verbenas, nemophilas, mignonette, pimpernel of all kinds, and mimulas.

The stiff-growing plants should occupy the entre, and those of drooping habit the sides. If ferns are grown with flowers, the soil should be a soft peat, with a mixture of leaf mould and sandy loam. These ornaments require frequent attention, and copious supplies of water. They should be covered with pitch inside, to keep them from the ravages of damp. On a large

scale, there is scarcely anything so suitable to cover the handles as the Dutchman's pipe.

SLUGS.—Procure a gallon or two of wheaten bran, or brewer's grains, and on a mild evening, just before or after a shower, place little patches of it about the garden in all directions, especially near box-edgings and similar places of retreat. About nine o'clock at night, provided with a good lantern and candle, and armed with a potful of air-slaked lime, visit all the little patches of bran in succession; you will probably be astonished at the vast numbers of these enemies congregated and feasting at your expense, when, with the pot of lime, you can give them such a dusting as will prevent them from ever again troubling you. If this plan be persevered in for a short time, the garden will be effectually cleared of slugs. I have applied this remedy for many years, and have never known it to fail.—*H. Mitchell*.

Ducks are said to be great destroyers of slugs and other vermin. Young broods may be allowed to wander about the garden every evening, and it is amusing to see the zeal with which they attack the enemy; but quick-lime, used so as not to disfigure the garden (say one peck per acre), if quick and fresh, is an excellent remedy.

STEEPING SEEDS IN GLYCERINE.—About the end of March, 1856, some one had given this out as an important discovery, to promote vegetation of seeds. It consisted simply in steeping the seeds in glycerine. Being in the way of receiving seeds from various foreign parts, with which I had often great trouble and innumerable failures, having found all recommended appliances useless, a correspondent of the *Gardener's Chronicle* says: "I set myself with avidity to try this new agent. Just then I had received a packet of seeds from the Andes, containing a very rare *Gentiana* from the snow limit. Of all things, few

are more obdurate than Gentian seeds. These, I was assured, were quite fresh and newly collected when dispatched, being some seven weeks before they reached me. I divided a portion of the Gentian seeds into two; steeped the one-half in glycerine, and sowed them in one-half of a small pot, divided from the other by a partition; the other half of the seeds I sowed plain in the other half of the same pot. These sowings were done on the 3d April, 1856. In about two months or so, the seeds sown plain began to vegetate, and I had about twelve or fourteen up in the course of the summer. Of the seeds steeped in glycerine, the first and only one yet vegetated appeared only yesterday in the seed leaf. But in the hope of its efficiency, in an evil hour I steeped many other seeds in glycerine, especially seeds of the *Sida pichinchensis*, and none of these have I yet observed to stir. My experience, therefore, of glycerine is, that it is not only of no use to promote vegetation, but that it is a positive hindrance to, if not a preventive of, that operation."—*Isaac Anderson, near Edinburgh.*

FARM FOR SALE.—We ask attention to the advertisement of a farm for sale in Westchester County. It has many advantages, such as a fine view of Long Island Sound, with two hundred acres of land covered with fruit of all kinds, and within less than an hour of the city.

EUGENIA UGNI (pronounced Un-yee) is being elevated to importance among eatable fruits. The plant thus called is a native of Chili, where it was first noticed in the beginning of the last century, by the celebrated traveller, Father Feuillée, who published a description and figure of it under the name of Murtilla. It forms an evergreen bush, with the appearance of a Myrtle, but with darker and thicker leaves. It is also somewhat hardier than a Myrtle. The flowers (which are white, with a tinge of pink and a peculiarly waxy appearance) hang down singly from among the leaves. The fruit consists of black purple, round berries, about the size of black currants, and, when ripe, resembles, in taste, nothing so much as a mixture of the strawberry, pine-apple, and purple guava. In our opinion, it is one of the most agreeable fruits that have yet been introduced to cultivation; and although the smallness of the berries would seem an objection, yet their quantity compensates for their want of size.

One important quality belonging to the Ugni is the easiness with which it is cultivated. No reason, indeed, seems to exist why it should not be grown wherever the common Myrtle can be kept alive. When producing its fruit, however, it requires all the heat that can be given it; so that, if grown in pots, it should be placed, as soon as the flowers are set, in the hottest part of a garden, fully exposed to the heat of the sun—such as the angle of a wall facing the southwest, or in a conservatory, in the full rays of the sun; and, if out of doors, it would be as well to protect it from night cold by a temporary roof, reaching completely over the front of the bush.

These are mere suggestions; by another year, further experience will have been gained, for large numbers of the plant have been recently purchased. The fruit, which has been tasted, and to which the above description applies, was all ripened under glass.

PERUVIAN TREES.—One is not aware of the great height of the trees here (River Ucayali, Northern Peru), until he attempts to shoot a monkey or bird from the topmost branches. He is then surprised to find that the object is entirely out of his reach with the fowling-piece, and that only a rifle will reach it. The trees throughout this country grow with great rapidity, and, being in a light, thin soil, with a substratum of sand, the roots are superficial, and the trees are continually falling down. Nature seems to have made a provision for their support; for, instead of the trunk coming down round to the ground, about ten feet above, it divides into thick, wide tablets, which, widening as they come down,

stand out like buttresses for the support of the tree. But even with this provision, no day passes that we do not hear the crashing fall of some giant of the forest. LT. HERNDON.

CAMELLIA RETICULATA.—In a late English horticultural journal, we find the following: "Among subjects of exhibition were some of unusual interest, and, considering the coldness of the weather, they were more numerous than could have been expected. Mr. Standish, of Bagshot, sent an example of the double-flowered *Camellia reticulata*—a variety which the Chinese were known to possess, but which has never before been introduced to this country. This new variety was sent to Bagshot, some years since, by Mr. Fortune, from the north of China. He bought it from a Chinaman, under the representation that it was a double *reticulata*, which has proved to be the fact. It entirely resembles *reticulata* in leaf; the flower is a vivid crimson, and quite double, and the plant is said to be a much better grower than even that gigantic kind. A bloom on a strong plant, about three weeks since, was reported to measure five and three-fourths inches across, and to be perfectly double; but the one on the specimen shown was not so large as it was on a small side branch. When planted out, however, and a strong plant, Mr. Standish had no doubt that it will grow and produce blooms of enormous size. It must therefore be regarded as a great acquisition."

A LADY.—A gallant gardener, discoursing on parlor plants, introduces his readers to feminine charming collars, and neat, spotless, embroidered wristbands, and says: "A lady is none the less a lady, if she dispenses with these latter accessories at times, and must do so if she would have pleasure and success in gardening. I have been thanked with a look of amazement that said as plainly as possible: 'What a thoughtless, careless thing I have been!' when, on turning up my sleeves, spreading the fingers and palm of the left hand over the surface of the soil in the pot, and turning the head of the plant topsy-turvy into a pail of water, moving it briskly several times through it; then setting it upright, and washing every leaf, upper and lower side, between the fingers and thumb; then swinging it again through clean water, and setting it once more in its position as pleasing a gem as a queen could wish to have in her company. There are many plants a disgrace to windows, because, from something like despair, the owners never try to keep them clean. Nimble fingers would soon make all the filth disappear. I have seen more time spent in a morning, in unavailing regrets, than would have sufficed for setting adrift every insect and dust spot from their favorites.

"The above mode of action is applicable to all smoothish-leaved plants, as myrtles, camellias, oranges, &c.: and if a little soap is dissolved in the first water, and in the washings before the last swingings, so much the better. When, on examining the foliage, you find that it is supplied with bristly hairs or down on either side, then a sponge will be preferable to the fingers. In all other cases, the fingers will be best, as no mechanism can ever be made to equal them. It will also be advisable, in all cases, for beginners to have a piece of loose cloth to place over the surface soil of the pot before the palm and fingers are placed across it with one hand, while the other hand, holding the pot, reverses the top of the plant in the water. The cloth thus held prevents the soil dropping out, and when the plant is set upright, and you are washing or sponging the leaves, the filth obtains no entrance to the soil. When finished, scratch off a little of the surface soil, replace with a little fresher, and if the pots are likewise clean, all will then look comfortable."

ERRATA.—The printer has given our readers the benefit of an *erratum*, which, no doubt, was mentally corrected by readers of page 262, in the last number, where it is recommended to place trees received in a dry or shrivelled condition in a barrel, without a bottom, and

fill up with tar or sawdust. *Tan* was written. These slips are sometimes ludicrous enough; *nancy* is generally printed, in our first proofs, for *nana*!

The name of one of the gentlemen who interested himself so successfully in collecting subscriptions for the park, should have been Charles S. Keyser, Esq., instead of C. W. Keyser.

We hail with much pleasure the appearance, under the guidance of Messrs. Siebold and De Vriese, of the *Annales de Horticulture et de Botanique*—a new monthly periodical, published at Leyden, and intended to illustrate the more interesting of the cultivated and ornamental plants found in the Dutch possessions in the East Indies, America, and Japan. It is, we presume, the successor of the *Tuinbouw Flora*, which, being written in Dutch, was a sealed book to most persons in this country. The number before us contains a colored figure of a Tree *Pæony* called "*Impératrice de France*."

The last number of the *Archives du Museum* contains a continuation of Mons. Weddell's careful, learned, and judicious work on *Urticacæ*. The plates are beautiful examples of scientific art, as the treatise itself is an honorable example of systematical science.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The regular stated meeting of this Society was held at Concert Hall, on Tuesday evening, when the extensive tables of the Society were entirely covered with a splendid display of plants, flowers, &c. Mr. Mackenzie, Mr. Dundas, and others, exhibited, for the first time, a number of new plants, which attracted much attention. A lot of grapes, in pots, composed of plants of foreign origin, were exhibited by Mr. Raabe. Mr. Buist exhibited one hundred and twenty varieties of cut roses; pine-apples in pots, and a great variety of strawberries, were also exhibited. In the department of vegetables, Mr. A. L. Felten made his usual large and excellent display, receiving the first premium as a market gardener. Mr. Buist received a special premium of \$5 for his display of cut roses. Premiums were also awarded for grapes, and for the best cherries, to A. L. Felten, and also the second best for strawberries. The entire display was in every way creditable, reflecting the highest praise upon all the competitors and the Society.—*Ledger*.

Calendar of Operations.

JULY.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

Much of the work of this month is but a continuation of that recommended for June: tying up, removing lateral shoots and suckers, keeping the weeds down, &c. &c. Some vine dressers recommend stirring the earth with the plough, the cultivator, or the hoe; others, merely to keep the weeds down with a hoe, or even a short scythe, and not to cultivate the ground until the grapes begin to color a little, for fear of inducing the *rot* by opening the earth to admit too much moisture. Experience has not yet sufficiently tested which of these two methods is best. I prefer the latter.

The vines grow very rapidly this month, and will require close attention in tying up. The bearing canes for next year will reach the tops of the stakes, and should be trained over and fastened to the adjoining stakes.

About the latter end of June, and during this month, the *rot* (our great enemy) usually appears. Arising principally from atmospheric causes, it is difficult to find a remedy for it; but in porous subsoils, and in others well drained, it is found to be the least destructive. Many plans, by surface draining, special culture, &c. &c., are being tried, and it is hoped some partial remedy, at least, may ultimately be discovered.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—During dry seasons, there is frequently great difficulty experienced in the removing and setting out young cabbage plants, &c.; even although carefully watered and tended, many failures occur. Mankind instinctively resort to water as the great cure-all to diseased and languid vegetation; but it is seldom properly applied. No amount of water will cause a plant to grow that has been divested of its roots. Roots must first be encouraged before water becomes available. Plants that have been grown in a crowded seed bed, seldom come up with roots proportioned to the tops. They are, in fact, more like cuttings, and ought to be treated somewhat similarly. It is not expedient, on an extensive scale, to give each plant an atmosphere suited to its wants; therefore, the plants must be suited to the atmosphere, by diminishing the foliage. We have never found any difficulty in transplanting, when the leaves have been shortened or removed, and the roots pulled with soil. Even trees can be removed during the height of their growth, when treated in a similar manner, and many kinds more successfully than under any other circumstances.

FRUIT.—Plantations of strawberries may be made this month, and, if properly cared for, will produce largely next season. Manure heavily, and incorporate it thoroughly with a good depth of soil. Give the plants plenty of room, and do not be deterred from manuring heavily by a supposition that you will have all *vine* and no fruit, which is a very probable result when the plants cover *all* the ground.

GRAPES UNDER GLASS.—We are more than ever convinced that what is termed the *close-spurring* system of managing grapes, is an erroneous one. This, and deficient ventilation, are the great source of badly colored grapes, unripened wood, and consequent winter-killed plants. Allow for the gradual extension of the plants, by thinning them out as they get crowded; if one plant ultimately fills the house, so much the better. Keep the house well ventilated during the night, that the wood may mature as it advances in growth, and keep the atmosphere charged with moisture during the day, by sprinkling water on the soil; if the inside borders get dry, give a thorough soaking once a week, with rain water. On no account water with *cold* spring water, unless you wish to study its effects in producing rot, mildew, and other maladies.

PRUNING.—The science of pruning does not seem to be generally understood, notwithstanding all that has been advanced on the subject. Summer is recommended by some as the best time, while others say that winter is the proper season. So far as simply thinning out the branches of an old and well established tree, it perhaps matters but little what season is chosen for the operation; but as practised for the production of fruit, in opposition to the production of timber, as special objects, the season is all-important. Fruit growers who are conversant with pruning, recognize these distinctions, and act accordingly; they know that when a luxuriant, healthy tree has attained a fruit bearing size, but shows no disposition to fruit, the barrenness is owing to preponderant wood growth, which must be checked, in order to encourage the formation of flower buds. They also know, that by diminishing the foliage during growth, the plant is weakened; that by rubbing off a bud in May, prevents the necessity of cutting out a branch in November; that by pinching out the point of a growing branch, lateral branches are immediately produced from buds that would otherwise have remained dormant until the following season; and, on the other hand, that to strengthen a weakly tree, every leaf should be carefully retained during summer, and the branches pruned severely after the plant has become deciduous. The results of winter and summer pruning are as important as they are dissimilar.

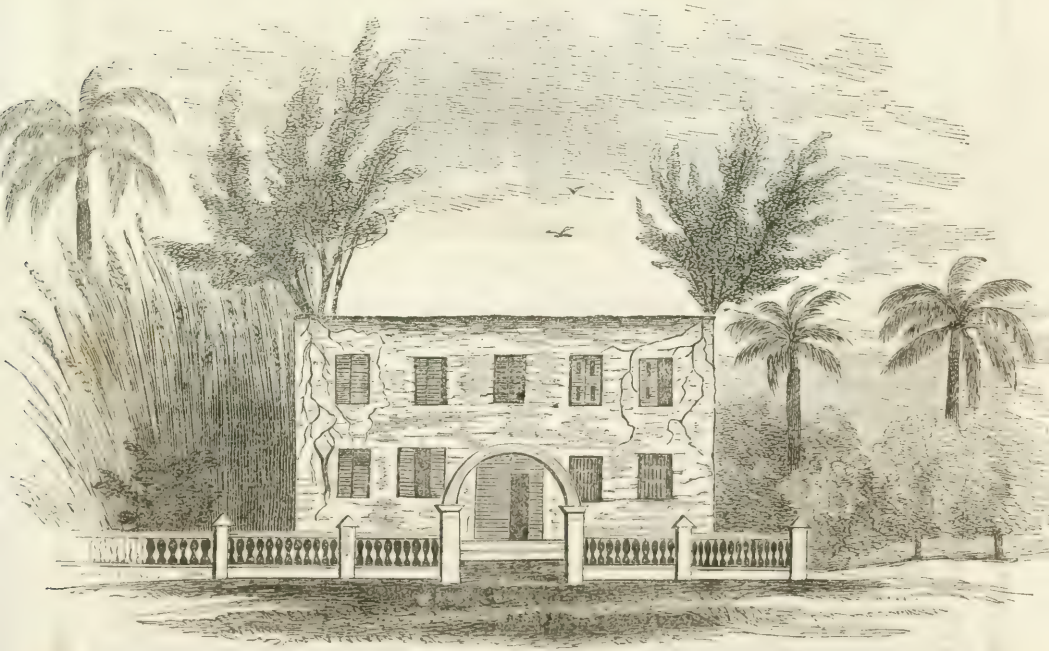
SHRUBBERY.—The aridity of our climate, and want of shade and shelter in many situations, render the cultivation of evergreen shrubs of local attainment. Latitude does not form a sufficient guide to the successful growth of broad-leaved evergreens. Sheltered valleys, in northern latitudes, may abound in them, while in seemingly more congenial climates, they will not thrive. Thick shrubbery borders add so much to the variety and interest of small places, that this want is severely felt. But we may form the largest growing trees into shrubs, as far as effect is concerned, by proper pruning. Beautiful bushes may be formed of the Norway and Hemlock Spruces, Arbor-vites, &c., by careful trimming, and pruning the strongest branches. Admirable deciduous shrubbery may be obtained by similar treatment on Maples, the Tulip-tree, Gums, Sassafras, &c. The great profusion of massive foliage which can thus be produced, with the variety of colors which such foliage undergoes during the various stages of growth, would add a feature to our shrubberies which they cannot now claim.

A Trip to Cuba and the Southern States, No. 3.

"Blossoms and fruits at once of golden hue
Appear'd, with gay enamell'd colors mix'd."

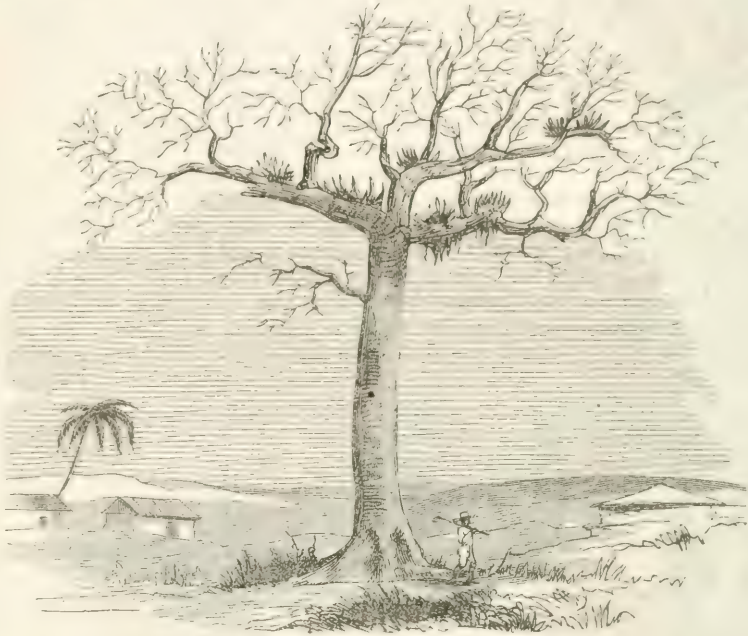


THE Bishop's garden has been abandoned to take care of itself, the Cubans having cut down his salary from one hundred thousand dollars a year to fifteen, yet it still presents scenes of great beauty, which the rapid vegetation going on all around must soon obliterate. Here we first saw the Bamboo, growing in large clusters in a moist spot. It is an extremely beautiful plant, of rapid growth, soon forming an impenetrable jungle, and yielding a grateful shade from the midday sun, now (in early March) a little oppressive when not accompanied by the usual breeze. Employed for a shady avenue, nothing can exceed the Bamboo. The Bishop's house here was a very small one, apparently only employed for a day's residence. It has been unroofed (probably by a hurricane), and, at each front corner, a plant that is becoming a tree, has taken root in the coral rock of which the house is built, and its roots have descended nearly to the ground, as seen below. When the plant has fully established itself in the earth (it is now like the air-plants, sustaining itself on the moisture of the air), it will grow with great rapidity, and possibly envelop the whole house with its fibres. As this kind of growth is very common, we shall take this opportunity of describing the



THE BISHOP'S HOUSE IN THE DESERTED GARDEN.

process that is going on on thousands of the trees, but, especially, the very large Ceiba. The plant is epiphytial on other trees.* The Spaniards call it Jaquey (pronounced Hawaia). The seed lodges in a high crotch of the Ceiba, takes root there, and immediately begins to envelop downwards the huge trunk with a delicate network of roots that gradually get a footing at the bottom of the tree it has invaded; and now begins the wonderful process. The network spreads rapidly, and has the remarkable faculty of *welding* itself into one continuous, smooth bark. The Ceiba resists the embrace of the boa constrictor that has attempted his conquest, and a contest ensues; the Ceiba swells out at any neglected point,



The Ceiba-tree, with air-plants growing on its branches.

and appears to desire to burst its bonds; in vain, for the plant is uniformly the conqueror. Very soon the smooth bark of the invader has encompassed every part of its support, and, finally, all the limbs are thus covered, and a *new tree*, to all appearance, has been formed, with its peculiar leaves waving in the air. This new tree is really the emblem of ingratitude, having swathed its benefactor for

* This epiphyte is the *Ficus Indica occidentalis*, and another is the *Clusia alba*. "The latter grows on rocks," says Loudon, "and frequently on the trunks and limbs of trees; the birds scattering the seeds, which, being glutinous like those of the Mistletoe, take root in the same manner: but the roots, not finding sufficient nutriment, spread on the surface of the tree till they reach the ground, where it fixes itself, and the stem becomes a large tree. Roots have been known to do this at forty feet from the surface. The resin is used to cure sores in horses, and instead of tallow for boats." *Loudon's Encyc.*, p. 867. A swing is made by the Cubans of the roots of the *Clusia*; when they are half the size of one's little finger, they are so strong as to hold three stout men. They are useful for traces and other purposes, and form an example among thousands of the adaptability of the products of this region to the wants of man. (See "Editor's Table.")

support, and obliterated him entirely. The phenomenon, in all its stages, was a constant source of astonishment to our little botanical party.

The Ceiba is also the fruitful bearer of innumerable air-plants, which cluster on its branches, and display their gorgeous flowers on premises not their own.*

The Ceiba bears no resemblance to any of our own trees. It is remarkable in its formation just above the roots, where the body resembles a tripod, imperfectly represented in the drawing; it has in fact three hollows and three corresponding long protuberant supports, between each of which several men could readily shelter themselves in a heavy gale. The air-plants have a secure resting place, the height of the tree and its limbless trunk making them very inaccessible. The Ceiba is not very useful, its only product being a kind of wool from its seed pod, which is used by the poorer classes to stuff pillows and chairs, but is generally thought unwholesome to lie upon.†

Among the most agreeable hours spent in Havana, we should be most ungrateful if we were not to place on record the time passed with *Don Francisco Sauvalle*, an extensive planter, but to be distinguished in science when most other planters will have left no other mementos than their bones. Mr. Sauvalle is a botanist of that true kind who find their reward in the pursuit of the delightful study. He has taken up the topic of the trees of Cuba, and, wonderful to relate, he has drawn and described no less than seven hundred, excluding shrubs, for which he has not yet found time; but, more wonderful still, he is in the midst of his pursuit, and can yet see no termination to his labors. He finds thirty native palms on the island, though, if we remember rightly, several of the best previous botanists describe less than half the number. With estates in different parts of the island, and leisure for study, this gentleman has done, and is doing, for Cuba what the Michauxs (father and son) did for the United States; but he has, in a smaller space, a much greater field, so extraordinary is the vegetation, and so much greater the number of species. Mr. S. has no view of publishing, at least for the present, and when we urged upon him the importance and utility of such a step, he thought it would be delegated to his sons. Their great and growing intelligence will, we trust, carefully treasure the valuable scientific knowledge their father is accumulating, and give it to the world; for, strange as it may seem, even the trees of Cuba are (very many of them) unknown, and if this is so, what undiscovered treasures must exist among plants of smaller growth!

Among much miscellaneous information elicited by questions to Mr. S., we noted down a few particulars, which may interest:—

The cedar wood, of which there seems to be an inexhaustible supply for cigar-boxes, is the *Cedrella odorata*. It is one of the most valuable and useful trees of the island (if not the most so), from its extraordinary durability. They say it never rots; its uses are consequently very various. Employed in the place of mahogany, it makes the beams of houses that are so prominent an object in the ceilings, where they are carved or plain as taste or wealth dictates. The polished doors of houses are also made of this, having the color, but not the veining of mahogany.

There is another tree, that has the novel property of keeping on fire after it is dried. The highest wind will not extinguish it, and, of course, its value is great,

* When enveloped by the giant, these plants are all swept away.

† This is the *Bombac Ceiba*, and is one of the tallest trees of both Indies; the wood is very light, and is used for canoes, their trunks being so large, that, when hollowed, they make very large ones, frequently carrying from fifteen to twenty hogsheads of sugar. When the tree decays, it becomes a nest for the *Macaca beetle*, the caterpillar of which, when fried, is esteemed by many persons as one of the greatest delicacies.

under certain circumstances. Another (the *Quibra hacha*, or Break-Axe), is of so hard a texture that the best axe yields before it can make an impression. This is the hardest wood in the world, and might be made very useful in the arts. The Vomitel (*Cordia speciosa*) bears a thick, leathery leaf, which is found invaluable for polishing turtle-shell—an extensive produce of the southern portion of the island.

There are several species of Cinchona in Cuba, but the true bark for extracting the quinine is not found. The best oranges, in the interior, where transportation is yet difficult, are sold for one dollar the thousand.

Cocoa-nuts, where the same impediment exists, are plenty, at one cent each. Castor-oil is a valuable article of commerce, and the plant is cultivated extensively.

The coffee-tree bears about half a pound to a pound to each tree, and may average six hundred pounds to an acre. It begins to produce the third year, and the fourth is profitable. It ripens its pretty berries in September, but has some fruit on at all seasons, even when in full bloom; this period is its most beautiful one. The plant resembles a myrtle, and its white blossom is superb. It requires shade, and every other hill is a banana or plantain, the two latter repaying all the culture necessary. The Cuban coffee is most esteemed in Spain; its present price is about sixteen cents. The best is produced in the red earth with which the country so abounds. The coffee lands vary much in price, from ten dollars the acre to one hundred and eighty; for thirty, good land can now be purchased. The coffee estates, having more shade around, are much more ornamental than those devoted to sugar.

With a little care, the grape would produce profusely; and all the better kinds, grown with so much attention in our graperies, might be had, as has been proved on a small scale, for the planting, but for the sloth and ignorance of the people. They import peach and strawberry preserves in quantities, though both fruits will succeed, as will the apple. Our pears do not grow well. The Alligator Pear (*Laurus gratissima*) is a celebrated production. It has a trunk as large as our apple-tree; the bark is smooth, and of an ash color; branches, succulent and soft, set with large, oblong, smooth leaves, like those of a laurel, of a deep-green color. The fruit is the size and shape of one of our largest pears, the pulp covered with a tough, skinny coat, and contains a large, rugged seed, wrapped in membranous covers. It is held in high estimation. The pulp is of a pretty firm consistence, and has a delicate, rich flavor; it gains upon the palate of most persons, and becomes soon agreeable to those who cannot like it at first; but it is so rich and mild, that most persons make use of some spice or pungent substance, to give it a poignancy; and for this purpose, some make use of wine, some of sugar, others of lime-juice, but most of pepper and salt. This fruit is equally agreeable to the horse, the cow, the dog, and the cat, as well as all sorts of birds; when plentiful, it makes a great part of the delicacies of the negroes.

The exported orange is not indigenous, there being no native sweet orange in Cuba. The "Sour Sweet" is native, and is a tolerably good fruit, of the same appearance as the best kind. Not being in demand, and the tree a very handsome one, it is cultivated for its beautiful bearing, and represents the true article when that has become scarce. Its juice is employed extensively to clean harness, and to wash the pet volante, to which it gives a great shine. It also cleans shoes, and wipes up the floors, which receive great freshness from its application. Our coachmen, we observed, generally contrived to conceal under the seats a peck or two of these beautiful but almost valueless golden fruits. The best orange they call Naranja de San Jose. The Limoncella is a small lemon, of the size of a sixpence, of a reddish color, and is the *Limonia trifoliata*.

The tree most planted for shade in and around Havana, resembles a poplar in appearance and leaf; on investigation, it turned out to be the *Ficus religiosa* (the poplar-leaved Fig), and a most excellent shade-tree it is, bearing no fruit.

A species of cochineal is found, in a wild state, in various places; no cultivation of the true insect is attempted, though it might undoubtedly be successful.

Asparagus grows rampantly, but there is little or no attention paid to this and many other important vegetables. The inhabitants say there is little encouragement for this and the best productions of the gardens, as the mode in which their tables are supplied prevents their ever getting a taste of the best articles. A cook is hired to supply a table of a given number of persons, at so much a month. He or she is to give daily so many dishes of meat, so many of vegetables, and such a variety of fruit. This official goes to market as economically as possible, purchases the stale articles, and pockets the profit therefrom. It was just so at our hotel, where the peas were always yellow, though an abundance of better were to be had in market, as we verified by actual inspection. The arts of living, which here could be turned to so much account, appear to be all thrown away. As for butter, the article is rarely made by the Cubans, and as much as is needed to ornament the tables frequented by Americans, is imported; what it becomes by the time it is offered to customers, may be judged by a sample that accompanied us in the Isabel. It was contained in the half of an empty flour barrel, which was in proximity with the heat of the steam-engine during the voyage; tied over with a piece of brown paper, it descended with the baggage of our party into the shore boat, when a passenger, a little late in his arrangements for departure, in a hurried moment, thinking it was a trunk, stepped into it, withdrawing his boot well buttered. We had to presume that what the boot did not require to cover it, was served at our table thrice a day. Such is retailed for fifty cents the pound.

Vegetables, strange as it may appear, are a very dear product. Peas (such as would scarcely sell at all among us) were worth five dollars the bushel; beets, ten cents each; eggs commanded forty cents the dozen; milk, ten cents the quart, and poor enough; beef (very inferior) commands fifteen to twenty-five cents the pound, mutton twenty, and pork uniformly twenty-five. The above prices are certainly very remunerative; the temptation of the high wages of labor for the sugar estates, however, is constantly operating to draft the workmen from the gardens, and cigar making, in the shade, is preferred by all who can, by skill, get into that employment. Some Americans, when they hear of these prices, are tempted to procure land, and raise vegetables for the Havanaese; we have yet heard of no great success in this line. We left an active young man, from the State of New York, who was negotiating for one hundred acres near the Bishop's garden, for the purpose, and who felt sure of realizing a fortune in such a climate, where the truck seemed to grow spontaneously, or with only moderate care.

These notes are extending beyond the original design, but as they appear to be acceptable to our readers, they will be continued.

FRUIT CULTURE.—THE ORCHARD HOUSE.

BY WILLIAM SHIPLEY.

IN all establishments of any pretension, we have numerous structures for the cultivation of fruits, but, amongst modern inventions, there are none so useful to the amateur as the orchard house, which was brought into existence by that excellent fruit cultivator, Mr. Rivers, of Sawbridgeworth, Herts., to whom we are also

indebted for much valuable information on fruits, and for the introduction of many new varieties. The orchard house is for protection from severe spring frosts, such as we have had of late years. Mr. Rivers's first houses were erected against some old yew edges, which formed the back, and these houses were found to answer their purpose to a certain extent, in the cultivation of the more hardy fruits, such as plums, &c.; but Mr. R.'s later erections are constructed with boarded sides. The first cost of such houses certainly would not be much, but I think they will eventually be found dearer than properly built brick and mortar walls. Most orchard houses hitherto erected, are without any heating apparatus, which I also think is false economy; for the plants in such structures must naturally be forwarder than those out of doors, and the frost has much power in a house of this sort, if means are not taken to keep it out; but it must be borne in mind, that orchard houses are a new invention, and far from that perfection which we may expect they will ultimately reach. My idea of a good house is, that it should be built span-roofed (say twenty feet wide), and as long as the proprietor pleases. The height from the ground to the eaves should be about six feet, the lower three feet of which should be of brick, and the upper of glazed sashes, made to open, for the purpose of ventilation. A three-foot border, in which trees may be placed, might run round the house; and the path should be three feet wide, which would leave eight feet for the centre border. The flue, or hot-water pipe, should be placed on or in the path. It has been the practice, hitherto, to grow the trees in pots, several nurserymen having prepared many trees well furnished with bloom buds for that purpose, and thus secured a crop of fruit the first year; but how this method will succeed, is at present a matter of uncertainty. For my part, I am very doubtful of its propriety, as I fear the trees will not continue to produce good crops many years, if grown in pots, while, if planted in the borders, success would be certain, as they may be kept dwarf by proper pruning, and removing and root-pruning every two or three years, which might be done without at all injuring them. Another means of keeping the trees dwarf, is the proper selection of stocks to work the different fruits on, as, for instance, the Pear on the Quince, the Apple on the Paradise, the Cherry on the Mahaleb, and the Plum on the Black Thorn. Most fruits may be successfully grown in an orchard house, including Apples, Pears, Peaches, Nectarines, Plums, Apricots, Grapes, Figs, and Strawberries, besides what may be had in the way of choice flowers and vegetables; and thus it will be seen that the amateur possessing one of these structures, may command a good variety of fine fruits at but little expense. With regard to the management of the orchard house, every attention must be paid to proper ventilation, which is most essential, and provision must be made for admitting air both by the side and top lights. If the side lights can be all removed, sufficient air may be given without allowing cold draughts, by keeping them closed on the side the wind would enter. Watering must also receive due attention, as the trees might be soon damaged either by an excess of moisture or the want of it. Another important point is to keep the trees properly pruned and the fruit properly thinned, removing all that is not required as soon as it is set, before it begins to damage the trees.

VISITS TO COUNTRY PLACES.—NO. 12. AROUND BALTIMORE.

Dr. Thomas Edmondson, who has paid the debt of nature since we were there, possessed a collection of plants which had few (if any) competitors for variety and value in this country. His collection has been sold, in one lot, to Mr. Winans,

who has prepared extensive houses for its reception, and who undoubtedly possesses the finest and most rare hothouse in North America. Great disappointment was expressed that the plants were not sold separately, as a large company had assembled, to procure individual specimens. Mr. Winans swept the whole at a small advance, on the low valuation of \$2,385.

We noted the following, for their rarity :—

Fircreea gigantea ; nine feet in diameter and ten feet high.

Cactus Braziliensis ; twenty feet in height.

Ficus reptans.

Banana Cavandishii ; in bearing.

Stigmaphyllon ciliatiana.

Muscienda frondosa.

Hakea Victoria ; resembling the *Salisburia*.

Weigelia amabilis ; an old plant, and in full bearing.

Magnolia grandiflora ; a large plant ; somewhat injured by the winter of 1855–6.

Stenocarpus Cunninghamia.

One of the most extraordinary things in these grounds, and one of the most beautiful we ever saw, was an Osage Orange-tree, about twenty-four years old. Its leading shoot had been destroyed, and it had become recumbent to a surprising degree. By pacing the circumference over which it had spread itself, we found it covered the space of *one hundred and sixty-five feet* ! It is highly ornamental in this condition, and was full of fruit. The limbs laid about with a profusion that was positively beautiful and wonderful. We recommend experiments with this tree where a large space (say a circular drive) is to be filled.

Here, too, we gratified a long wished-for inspection of Dr. Edmondson's seedling camellias, which have stood out for twelve or fifteen years in the open air, protected only by leaves thrown over them. They were cut down to the snow-line, the last winter, but were again growing vigorously, and sending up tufts of leaves more beautiful than mahonias. Would that our own climate might be favored with such a result. Dr. E., as already stated, was famous for possessing some extraordinary seedling strawberries of his own raising. The *Marylandica* constantly took the prizes, and other sorts were in great esteem. These have been purchased, and are now offered for sale by S. Feast & Sons (as before remarked), with the *Charles's Favorite* and *Haarlem Orange*. He never parted with these, his answer being always : "They are not for sale." His seedling strawberry ground was trenched from two to three feet deep ; at the bottom of each trench, a layer of eight or ten inches of charcoal, manure, leather refuse, and various materials, were mixed. The seedling plants were turned out of the pots in which they had been kept all winter, and planted in rows two feet, and the plants eighteen inches apart. The ground was then covered with a thick coat of tan, the runners suppressed until fruiting was over. The three now offered are the choice of many thousands tested. So notorious had his fruit become at the exhibitions and the markets, that no others attracted attention.

Marylandica is one of the finest show fruits. Color, rich dark crimson ; large, firm, rich flavor ; strong grower ; well adapted as a fertilizer, and we think it the finest berry we know.

Haarlem Orange ripens early, and continues until strawberries are over ; is a very prolific bearer, good size, and of a glossy orange color, pine-apple shape, firm, and of rich flavor, and a great favorite of the birds.

Charles's Favorite is declared to be equal to Hovey's Seedling, and ripens ten days earlier.

His camellias, now also in Mr. Feast's control, are Feast's Perfection, quite a remarkable flower, distinct from any other in color, and attracts all eyes, in collections however large.

Triumph of Baltimore is a very strong grower; large foliage, enormous flower, imbricated; color like tricolor, but not so coarse, and very attractive.

Mary Kurtz is also a good one; fine foliage, free bloomer, fine-shaped flower, white ground, striped with rose; raised by Edward Kurtz, an amateur of merit.

The owners of these valuable articles,

Samuel Feast & Sons, have been long and favorably known nurserymen and tenants of Dr. Edmondson. They have a very large nursery, a great variety of camellias, including some new and desirable kinds. Their prairie roses are too well known to be more than alluded to. Mr. S. Feast has been engaged, for some time, in planting orchards of pear, peach, and apple, for the supply of the Baltimore market, and if intelligence is any passport to success, he will soon show what may be done.

John Feast has a town greenhouse and garden, filled with the rarest and most beautiful flowers, and does a large business, supplying plants, bouquets, &c. &c.

Pentland & Brother are also largely engaged in the flower business, and have advertised, lately, some new roses, which promise well.

Baltimore may hereafter supply additional notes; at present, we reluctantly leave this most hospitable region.

THE LEAF-CUTTING BEE.

BY J. STAUFFER, MOUNT JOY, PA.

THE genus *Megachile* (comprising the leaf-cutting and some other bees) has long attracted the attention of the curious; and so early as 1670, it was noticed by Ray, Willughby, Lister, and others.

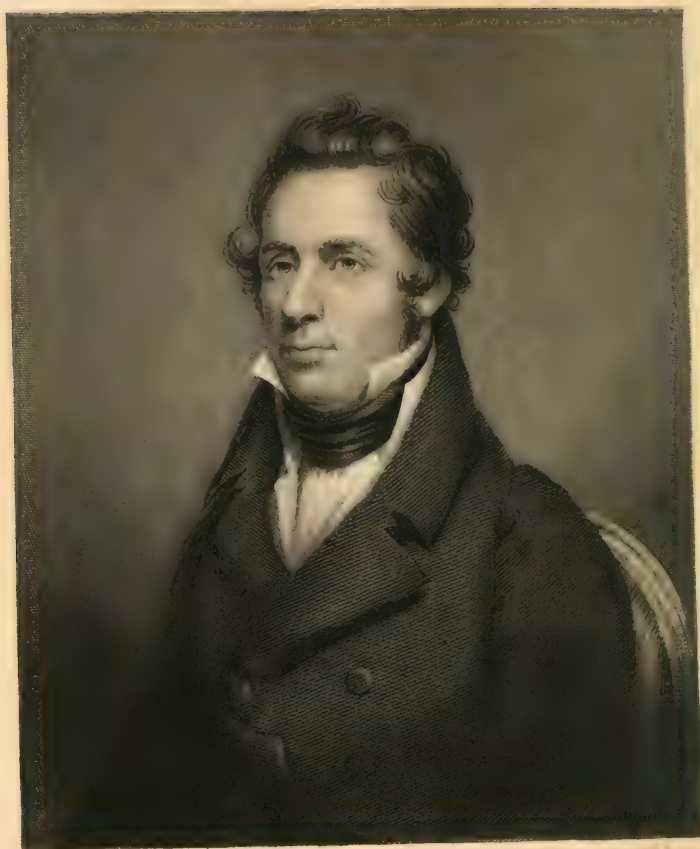
Mr. Kirby has given the history of these bees at great length in his *Monograph*, together with Réaumur's account; yet I have never met with a description of our native species. T. W. Harris, among his hymenopterous insects (page 371), barely mentions "the skill of the leaf-cutter bee in cutting out the semicircular pieces of leaves for her patchwork nest." True, there may be other accounts which have not come to my notice. I offer the following observations (made by myself), which may be of interest to some, and new to others:—

On the 3d of last September, I found a series of compact rolls of fresh green leaves from the rose or sweetbrier, neatly fitted into the channel made (as I suppose) by some larvæ of a coleopterous insect. These rolls were about three-fourths of an inch long, and three-eighths of an inch in diameter, Fig. 8, composed of layer

upon layer, accurately adjusted with a double top and triple bottom of circular pieces, as tight as a cartridge without cement, apparently. One opened contained about six small, white, oblong eggs, immersed in an orange-colored jelly-like substance (pollen and honey necessary for the food of the larvæ). November 24, I opened



another, and found the larva, Fig. 10 (half the size of fig.). The perfect insect (male?), Fig. 1, came forth May the 26th. I took accurate drawings of the



André-Michel

various stages, but regret that my woodcut is not equal to my wishes; but it may suffice, as I am not a professed "wood-cutter."

The insect is about half an inch long, of a black color. The face, Fig. 9, is densely clothed with yellowish hairs; the Antennæ clavate, with the apical segment subcompressed; the cheeks, underside and margin of the thorax, and anterior segment of the abdomen, sparsely clothed with yellowish hairs. The tibia are black, with a few hairs near the body, except the anterior pair, Fig. 3, which are densely clothed with long, ochrous hairs. Fig. 5, the spurred hind-leg; the tarsi are covered with short black hairs. Fig. 7, the two jaws—one apparently one-toothed, cutting edge slightly curved. Fig. 6 is the tongue; its external sheath, and the maxillary and labial palpi, separated. Fig. 4, the anterior wing, with its cells.

This species may be known to those familiar with the insect. I will not venture to name it, but shall be truly obliged to any one who will inform me of its specific name. I will append a portion from Kirby and Spence's *Entomology*, by way of conclusion.

"The process which one of these bees employs in cutting the pieces of leaf that compose her nest, is worthy of attention. Nothing can be more expeditious; she is not longer about it than we should be with a pair of scissors. After hovering for some moments over a rose-bush, as if to reconnoitre the ground, the bee alights upon the leaf she has selected, usually taking her station upon its edge, so that the margin passes between her legs. With her strong mandibles, she cuts without intermission in a curve line, so as to detach a triangular portion. When this hangs by the last fibre, lest its weight should carry her to the ground, she balances her little wings for flight, and the very moment it parts from the leaf, flies off with it in triumph, the detached portion remaining bent between her legs in a direction perpendicular to her body. Thus, without rule or compasses, do these diminutive creatures mete out the materials of their work into portions of an ellipse, into oval or circles, accurately accommodating the dimensions of the several pieces of each figure to each other. What other architect could carry impressed upon the tablet of his memory the entire idea of the edifice which he has to erect? and, destitute of square and plumb-line, cut out his materials in their exact dimensions, without making a single mistake? Yet this is what our little bee invariably does. So far are human art and reason excelled by the teachings of the Almighty."

MEMOIR OF ANDRÉ MICHAUX.

FROM LOUDON'S ARBORETUM.

ANDRÉ MICHAUX was born in the Park of Versailles, in 1746, and soon evinced a taste for agriculture and botany, which was fostered by his early patron, the court physician, M. Lemonnier. In 1777, he studied botany under Bernard de Jussieu, at Trianon; and in 1779, he was studying in the *Jardin des Plantes*. Soon after this he went to England, and returned to France with a great number of trees, which were planted in the gardens of M. Lemonnier, and of the Maréchal de Noailles, where they succeeded perfectly. He often used to take from these gardens a packet of grafts, and, going through the woods of Versailles, he would graft them on the trees already there. In 1780, he went to botanize on the mountains of Auvergne with several botanists, among whom were Lamarck and Thouin. Michaux was the most active of all of them; besides his musket, haversack, portfolio, and several specimen boxes, he carried in his pocket seeds of the Cedar of Lebanon, which he sowed in favorable situations. Soon afterwards, he went to

the Pyrenees, and travelled in Spain; and, in a short time, accompanied the nephew of the celebrated Rousseau to Persia, the latter being appointed Consul to that country in 1782. He went to Aleppo, Bagdad, the Tigris, the Euphrates, Bassora, and many other places, sending home numerous seeds to Thouin, Malesherbes, and others. Persia at that time was a prey to civil wars, and Michaux, plundered of everything by the Arabs, was supplied with the means of continuing his journey by M. de la Touche, the English Consul at Bassora, though France and England were at that time at war; M. de la Touche, his biographer observes, thinking that a naturalist who travelled for the good of humanity, ought to be protected by every nation. In this part of the world Michaux remained two years, traversing mountains and deserts from the Indian to the Caspian Sea, and proving that the provinces situated between 35° and 45° of latitude in the East, have supplied most of our trees, exclusive of those which belong to America. He here verified the fact first noticed by Kämpfer, that the male flowers of the date will keep during the year, and yet impregnate the female. He sent home sculptured ruins from the palace known as that of Semiramis, near the Tigris, and various other antiques, and objects of natural history. He returned to Paris in June, 1785, and was chosen soon after to go to the United States, to collect seeds of trees and shrubs; to establish an entrepôt for them in the neighborhood of New York; and to get them sent from that to Rambouillet, which was destined to receive them. He was also commissioned to send home American game. He arrived at New York in October, 1785; established a garden there; traversed New Jersey, Pennsylvania, and Maryland; and, after the first year, he sent home twelve boxes of seeds, and five thousand young trees, together with some Canadian partridges, which afterwards bred at Versailles. In September, 1789, he went to Carolina, making Charleston his depôt; he traversed the Alleghany Mountains, and the whole country north and south, leaving his son at Charleston, in charge of the gardens there. From this place he sent home numerous seeds, and many hundreds of young trees. In April following, he set out to reconnoitre the sources of the Savannah, and there he discovered *Magnolia auriculata*, *Robinia viscosa*, *Azalea v. coccinea*, a *Kalmia*, a *Rhododendron*, and many oaks and other trees not before known. The manner in which he travelled, his intercourse with the native Indians, and the accidents he met with, are extremely interesting. Whenever he discovered a new plant, it inspired him with such enthusiasm, that he no longer felt fatigue. The discovery of a new *Pavia*, and of the *Pinckneya pubens*, gave him great pleasure. He arrived at New Providence in February, 1799, and returned to Charleston in May of the same year. He afterwards visited the highest mountains of Carolina. The dangers he experienced there, convinced him of the necessity of having two guides, because one might perish by the road by a thousand accidents, and it would be impossible for a European to find his way alone through the country. He found in these mountains vast tracts covered with *Rhododendrons*, *Kalmias*, and *Azaleas*, and with forests of trees altogether impenetrable. War, at this time, was declared between France and England, and Michaux was afraid of being forced to leave America. He had been for a long time occupied with the idea of determining the native place of all the American trees; and also at what latitude they begin to grow rare, and where they disappear entirely. In short, he wished to ascertain up to what height they are found on the mountains, and in what soil they prosper best. He considered the native country of a tree to be that in which it is most numerous, and where it acquires the greatest height and thickness. Thus he fixed on Kentucky as the native country of the Tulip-tree, because it there forms vast forests, has a trunk commonly seven feet or eight feet in diameter, and grows one hundred and twenty feet high, thriving in a moist,

clayey soil, but not in one that is frequently inundated. In higher or lower ground, or in a different soil, these trees become smaller and more rare. It was with a view to trace, in this manner, the botanical topography of North America, that Michaux visited the Floridas, and went as far as Hudson's Bay. He left Charleston in April, 1792; arrived at Quebec in June of the same year; and reached Tadoussac, lat. 52°, in October, one hundred and sixty leagues from any human habitation. He afterwards planned a journey to Mexico, for the benefit of the United States; but, after very many journeys, he returned to Paris by Amsterdam, where he arrived on the 3d of December, 1796, after ten years' absence. He found his friends well, but was grieved beyond measure to learn that the beautiful plantations of Rambouillet, to which he had sent sixty thousand young trees, had been destroyed during the Revolution, and that but a very small number of the trees were remaining. Seeing that tranquillity was restored, he instantly thought of repairing the loss. After unsuccessfully endeavoring to get sent again to America, he was sent to New Holland. He stopped at the Isle of France, and was very desirous of going to Madagascar, in which island he was attacked by the fever, and he died there in November (an ix.), 1803, aged fifty-seven years.

Michaux not only sent many new trees and shrubs into France, but he sent great quantities of the seeds of the more useful species; such as *Juglans Paccan*, used for making furniture, and which produces the nut oil; *Taxodium distichum* (the deciduous cypress), suitable for planting in very moist soil: *Nyssa caroliniana*, useful for the naves of wheels; *Quercus tinctoria*, for tanning and dyeing; and *Q. virens*, which, he says, grows rapidly on the sandy beach, exposed to the stormy winds of the ocean, where scarcely any other tree can exist, and the wood of which is excellent for ship-building; to these may be added the *Caryas* of Pennsylvania, the Tulip-trees, and the American Ashes, Maples, &c., which, in many parts of France, are preferable to the indigenous trees. The administration of the Museum, aware of the services rendered to natural history by Michaux, ordered his bust to be placed on the façade of the greenhouses, along with those of Commerson, Dombey, and other travellers who had enriched their collection.

Michaux was too fully occupied in travelling to have much leisure to write; nevertheless, he is the author of *Histoire des Chênes de l'Amérique Septentrionale*, published in 1804: a *North American Flora*, and a *Memoir on the Date Palm*. The particulars of his life, at great length, and proportionately interesting, will be found in the *Annales du Muséum*, tom. iii. p. 191, from which this notice of his life has been abridged.

[A memoir of his son, François, who completed the *North American Sylva*, will be given soon.—Ed.]

SHRUBS WITH ORNAMENTAL BERRIES.—NO. 3.

BY THOMAS MEEHAN, GERMANTOWN, PA.

27. *Rhus*. The Sumac.—*R. Cotinus*, the Mist-tree, or Green Fringe, is perhaps one of the best known. It can be scarcely said to be valued for its purple berries, for it produces these sparingly, but rather for its mossy looking flower, giving the plant, at a distance, the appearance of being enveloped in a Scotch mist. *R. typhina*, the Stag's-horn Sumac, in addition to its beautiful crimson-dyed leaves in autumn, has handsome spikes of fruit. It is a shrub of the largest size. *R. coriaria*, if it were not so very common in our fence rows, would be highly prized for its very beautiful crimson fruit. The objection to most of the

family is that they propagate only too freely. The *R. cotinus* is an exception, as this can only be increased by layering the half ripened young shoots.

28. *Rosa rubiginosa*.—The Sweetbrier Rose is another of my little pets. I will pass by the grateful fragrance of its leaves, and the simple beauty of its sweet flowers, sorry that my subject obliges me to do so, to recommend it to all who should chance not to possess one, if only for its numerous little golden pear-shaped pods, so numerous produced, and so persistent for many months after everything else has disappeared. It is raised from seeds sown in the fall, if desired to grow the next spring, or in the spring, if one year's growth be no object. It is well pleased with any common garden soil.

29. *Sambucus*. The Elder.—The American species, though possessing handsome fruit, is rarely or never admitted into gardens. I allude to the *S. canadensis*, its extensively creeping roots rendering its presence there very disagreeable. There is one species, however, inhabiting the mountains of the northern States, which, while it is free from this objection, has also very beautiful red berries, which are very ornamental. This is the *S. pubens*. There is also a scarlet-berried European species, a stronger grower, and more desirable than the last, the *S. racemosa*. Most of the kinds known in the gardens, as the variegated, cut-leaved, &c., are all varieties of the *S. nigra*, a European variety, and bear fine clusters of deep black berries. All the species are of the easiest culture, growing anywhere but in very shady situations, and easily increased by cuttings taken off in the fall of the year.

30. *Shepherdia argentea*. The Buffalo Berry.—This shrub grows about ten feet high, and rather bushy. It has silvery shoots and foliage quite peculiar and interesting. Male and female flowers are borne on separate plants generally, so that to make sure of having a plant to bear berries, it is best to have both sexes growing near each other. The berries are small, but borne in great numbers; they are of a transparent pink color, and, when grown in perfection, there are few things more pleasing as a specimen lawn plant. It does best in a deep rich loam, and in an open situation. In the nurseries it is propagated by layers put down in July and August. They root rapidly and make good plants the following year.

31. *Symphoria*, or *Symphoricarpos*. *S. glomerata*.—The Snowberry is a well known small shrub, bearing numerous pure white berries in the fall and winter months. *S. racemosa* has smaller berries than the last, more numerous, and of a dingy red. It is known in its native places as the "Indian currant." They are both desirable shrubs of the easiest possible culture; cuttings taken off in fall or winter root as readily as willows.

32. *Taxus*. The Yew.—Pre-eminent amongst hardy evergreen shrubs for its handsome foliage; it is no less desirable for the pretty scarlet or pink berries it bears in succession most of the summer months. In the combination of these two points, it is second only to the Holly in beauty, and superior to that in the ease with which it can be cultivated. The American, *T. Canadensis*, has the handsomest berries. They are of a brighter color and produced more freely than those of any other species, but the plant is more straggling, and seldom makes a large or handsome bush. The European species, *T. baccata*, does not often bear fruit with us; the dark foliage of the plant shows them to advantage when they are produced. The Irish Yew, a variety of *T. baccata*, with an erect growth, has larger berries than either of the two species, but much duller in color. The yews will do well anywhere except in a wet situation. They, however, invariably do best in a rich garden soil, and indeed may be said never to exhibit their real beauty unless well cared for. They are propagated by layers, cuttings, or seeds. The first mode is the most universal. They root readily by cuttings of the one year old wood, put



in in the fall and preserved over the winter in a cool frame just kept from frost. Seeds may be sown early in the spring in boxes of sandy vegetable soil, covered about a quarter of an inch with soil, and kept in a cool place till they germinate.

33. *Viburnum*.—In this genus are found some of the most valuable berried plants we have. *V. oxycoccus*, the mock cranberry, is very widely known, its large red cranberry-like fruit giving it a conspicuous appearance in August and September. *V. dentatum*, with pretty foliage and a neat bushy habit, has numerous clusters of small blue berries. *V. Lantana*, the wayfaring-tree, and *V. lantanoides*, have woolly foliage of a silvery hue. *V. acerifolium*, the maple-leaved, is not a handsome grower, but has large clusters of ovate black berries. It does not grow over three feet. *V. prunifolium*, the Black Haw, is a strong grower, and very beautiful when in blossom. Early in the fall, and during most of the winter, it is covered with large black berries. All the species except the last root readily from cuttings taken off in the fall, preserved moist till spring, and then planted. *V. prunifolium* will only grow well from seeds. If these are preserved dry till spring they rarely grow till the spring following.

34. *Viscum flavesens*. The Yellow Mistletoe.—This little shrub, as most persons know, is a parasite, or plant that maintains itself by living on others. It is generally supposed that they will only grow on certain trees. The English Mistletoe, *V. album*, was at one time supposed to grow on the oak only. The present species I have seen growing vigorously on the Persimmon. It has numerous white berries through the winter by which it is propagated. I regret that I can give nothing from my own experience with regard to its culture, every attempt having failed; and I have never seen but one plant that was raised artificially. In this, a notch was cut in the bark of an apple-tree, and the seed stuck in.

When I commenced these notes I had no idea they would extend so far. I trust that something, however, may be found to repay their perusal.

PINON REAL.*

IN various excursions on the Island of Cuba, a most gorgeous flower presents itself in private gardens, which attracts general attention; and, by the favor of Madame Solle, of Charleston (who was in Havana), we procured the drawing which embellishes the present number, under the Spanish name of *Pinón real*. The tree is the *Erythrina indica*, of the family of the Leguminosæ. The flower is of a gorgeous scarlet color, and a tree covered with them, before the leaves appear, presents a most beautiful object.

Erythrina indica (Lam. dict. 2, p. 391, var. a). Stem, arboreal, prickly, with broad-ovate, acute leaflets, a spathaceous calyx, an ovate, concave, spreading banner; the stamens, monadelphous at the base. Native of the East Indies. Rheed, Malabb. t. 7; Rumph. Amb. 2, t. 76. *Syn.*, E. *corallodendron*, B. Linn. spec. 992. E. *orientalis*, Murr. Comm. Goeth. 8, p. 35, t. 1 (?). Flowers, of a splendid scarlet color. In Rheed's figure, the calyx is acute, and much elongated. In Rumphias' figure, it is short and obtuse. Do they form two species?

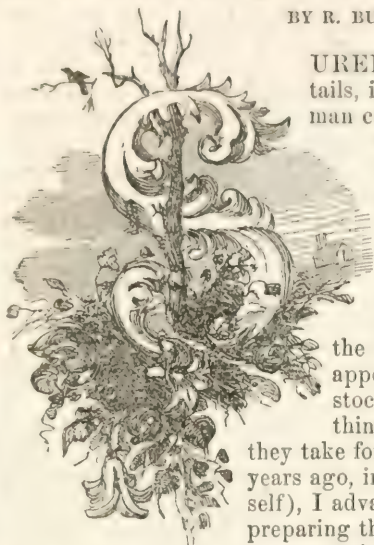
The above is translated from Decandolle's *Prodromus*, t. 2, p. 412. Don (whose description is a copy of the above) calls it Indian Coral-Tree, and adds: "Tree, twenty or thirty feet high." Neither of these authors, nor Loudon (who gives a figure of it on p. 605), mentions the name by which it is called in Cuba (*Pinón real*).

The *Cyclopædia of Natural History* says that the *Erythrina monosperma* (an East Indian species) is the tree from which gum-lac is obtained.

* See Frontispiece.

INFLUENCE OF THE STOCK ON THE GRAFT.

BY R. BUIST, PHILADELPHIA.



URELY, the study of horticulture in its various details, is one of the most beautiful that the mind of man can be engaged upon. I do not allude to that effervescent study given to it by nurserymen who are ever on the stretch for pounds, shillings, and pence, but to that cool, deliberate study of a student—that shutting out of everything except the scientific results of an inquiring, cool, deliberate mind. A few years ago, it was for the pear the *quince* stock only, and then the next move was the *Angers Quince*, the *Pyramidal Quince*, &c. Now, in 1857, there appears a reaction, and all pears must be on pear stock. We are strange in our ideas, few really thinking and acting on their own pure opinion; they take for granted that others are right. About five years ago, in an article for one of our periodicals (by myself), I advanced the opinion that the proper method of preparing the stock for a fruitful and persistent tree, was to remove it frequently before it was planted into the or-

chard. It would no doubt increase the cost from the nursery, but it would certainly be cheaper to the purchaser, in the safety and fruitfulness of the tree. I am not over the mark if I say that one-third of all the fruit-trees die within three years of their removal from the nursery. I very much question if there are a fourth of those trees planted with any degree of knowledge, from the fact that the planter does not know, from reasoning or thought, how a tree should be deposited into the ground; even with a *printed* guide before him, he goes astray. If they grow, he takes the credit; if they die, the broad-backed nurseryman is to blame. I find, however, by impulse, I am going from my subject of the influence of the stock upon the scion or graft.

In my movements last season, I was called upon to visit a grapery where nearly all the vines "had been killed by some wash given them by the gardener." (Poor gardeners, they are always committing some unpardonable sin.) The house was new, and a good one. I was certainly struck, on beholding all (except three) of the vines cut down to very near the ground. Before I expressed any opinion, I observed that the wash had only finished the work. The vines had been allowed to remain to the rafter all winter, and had been killed by the frost and sun. But how did the three remain? you will say. On close inspection, I found they had been grafted or inarched upon our native grape; those three, and none other, had been operated upon. This fact was not new to me, though it was before me in a new feature. Every planter and practical man should hold before them, in large letters, that a *hardy stock assists making a hardy tree*. Gardeners about Philadelphia, and south of it, do not invariably take the precaution to take down their vines, and cover them with dry material, to resist the cold and sun. Where it is not done, vines are split from top to bottom, fruiting buds killed, and frequently the whole or half the crop is lost. A little forethought, and six hours' labor—labor do I say? no, pleasure is the proper term—pleasure to feel that your vines and coming crop are safe, even with the thermometer at 30° below zero.

HOW TO MAKE STRAWBERRY BEDS.

BY THE LATE A. J. DOWNING.

As I presume a large part of your readers prefer practice to theory, perhaps some of them, about to plant strawberry beds, may take an interest in the following hints, though they are neither novel nor original :—

I have seen a great deal written about the sexual character of the strawberry, but not half enough about plain and straight-forward ways of cultivating it.

Now I must be permitted to say that I have cultivated for years the Early Scarlet, Hudson, and Hovey's Seedling—three unexceptionable sorts. The first, peculiarly valuable for early maturity, the second for preserving, and the third for large size and good quality; and I have paid no attention whatever to staminate or pistillate plants. All I have cared for, was to *get the soil in the right state*, and let the blossoms and berries take care of themselves. I have had the satisfaction of gathering very large crops of first-rate fruit, while some of my neighbors who have studied the nature of the blossoms, and thought too little of the soil, have had very sorry crops. Not that I mean to say that there is not something in this matter of the difference in the blossoms; but that I have found it of little or no importance to intermix them in any given proportions in the same bed. All that I do, is to cultivate a bed of "staminates," like the Virginia, or the Early Scarlet, in the same part of my garden as my Hoveys and Hudsons, and let them take the whole matter of fertilization into their own hands.

Now it seems to me, that the point most difficult to hit is that of manuring the soil well for the strawberry. If you use stable manure, in the ordinary way, you are certain to fill your soil with weeds to such an extent, that you give yourself a deal of needless trouble in keeping the weeds down; and if, as is not unlikely, you use it *fresh*, you will be likely to burn up your young plants, if the season is dry.

Two points must be understood, to grow the best strawberries: 1st, that the soil must be deep; and 2d, that it must be rich. If you look at the leaves of a strawberry, and, because they are not very large, presume that the roots will extend but little depth, you are greatly mistaken. I have seen the roots of strawberries extend five feet down in a rich deep soil; and those plants bore a crop of fruit five times as large, and twice as handsome and good, as the common product of a soil only one foot deep.

And this reminds me of a capital instance of *strawberry delusion*, which most of your readers doubtless know something about, but which many even yet do not, perhaps, fully understand. I mean the history of the "Washington Alpine Strawberry," which Mr. Stoddart, of Western New York, advertised, and sold a great many dollars' worth of, some four or five years ago. Mr. Stoddart, I believe, was quite honest in the transaction; and yet the whole public were completely deluded by the "Washington Alpine," which was nothing but the old Alpine or Monthly Strawberry. The long and short of the matter was, that Mr. Stoddart had a corner of his garden which was *made ground*—a rich, deep, moist soil (I think it had been an old bog, or bit of alluvial, afterwards filled up), not less than eight or ten feet deep. Mr. Stoddart had raised some seedling Alpines (which, so far as I know, always come the same from the seed); he had, by lucky chance, planted them in this corner of his garden, where the soil was so unusually rich and deep. There they grew so finely, and bore such enormous crops, that his neighbors could scarcely credit their senses. The story of the miraculous crop got into the papers. People

came to see with their own eyes. In short, they bought and carried away the "Washington Alpines," at extravagant prices, with the full conviction that "seeing is believing," and that such strawberries were never before grown, gazed on, or tasted. Well, great was their surprise to find, on planting and cultivating the "Washington Alpines," that there was nothing new or wonderful about them; and that, in fact, they all dwindled down to the old-fashioned Alpine Strawberry. Mr. Stoddart, naturally enough, now has as many hard names bestowed on him for the fancied deception, as he had before had hard dollars for really great crops. And yet, Mr. Stoddart sold his plants in good faith, and was probably as much deluded as the buyers. The whole secret of his unheard-of crops, and the large size of his fruit, lay in the depth and richness of his soil; and as none of his customers had, like him, a rich ten feet mould to grow giants in, they had no "Washington Alpines."

The "moral" your readers are to draw out of this digression is, that they cannot well make their soil too deep for the strawberry. Perhaps they cannot afford to make it three feet deep, which is the right depth for an extra fine crop; but, at all events, they can make it two feet deep. And now, a word as to manuring it.

It is all very well to talk about composts and "well rotted manure." The real truth is, that in our careless country, not one gardener in a hundred has such things *ready for use* at the moment he wants to prepare his strawberry patch. What people have at hand, from one end of the country to the other, is fresh stable or barnyard manure; and the question is, how to use that to the best advantage.

The true way to do this, is to throw out the soil where your beds are to be made two feet deep. Fill up the bottom eight inches or a foot deep with fresh stable manure, mixed with the litter, treading it down firmly. Then cover this with two-thirds of the soil thrown out, rejecting the worst part of it. This will raise the bed four inches above the surface; and as it will settle about four inches, it will be about level after it is settled.

This is all the preparation which I give my soil, and it is all that any soil of fair quality needs; only that I would much prefer to have it three feet deep than two feet, and to have sixteen inches of stable manure and litter at the bottom than eight, though the latter brings heavy crops in a good soil.

You may put out your plants in August or April. The only difference is, that if planted in August, you may lose half of them by the heat and drought, unless it is a rainy season; while, in April, you are certain not to lose a single plant, unless it is unsound when you transplant it.

To my mind, there is no way of growing strawberries so complete as in beds three and a half feet wide, with three rows in each—the plants in the rows kept clipped of their runners, and the ground between the rows nicely covered with straw all the year round. The largest and finest fruit is obtained in this way, and the beds themselves will last many years; while, if they are allowed to cover the bed, you can, at the most, expect only two crops, and, generally, the fruit is of little or no value after the first crop.

It is very idle and useless to attempt to make a new strawberry plantation on old strawberry ground. You may add double the usual quantity of manure, but the soil has been so robbed of other needful elements, that you will fail in growing a healthy crop.

A word or two may also not be thrown away, respecting the choice of plants. Of course, you will always put out young runners, and not old plants; but something more than this is needful. You must take care to see that they are not runners from an old and worn-out bed; for nothing is more certain than that, while runners from a fruitful bed will make fruitful plants, so, also, runners from an old and

exhausted bed, will very often produce only barren plants. Nurserymen ought to attend to this; for any respectable and intelligent nurseryman should be ashamed of sending out plants from a bed which is not in a healthy and fruitful state, since his customers at a distance depend wholly upon his integrity in sending them sound and healthy plants; not such as inherit feeble constitutions from "a long line" of decrepid ancestors.

Yours, &c.,

AN OLD DIGGER.

GARDEN VEGETABLES, NO. 8.—TURNIPS.

BY WM. CHORLTON.

As a part of the winter crop of turnips will have to be sowed in this month, a few remarks on their general culture may be in place at this time.

We have two classes of this vegetable in cultivation, viz: the *common flat* and *globe-shaped Brassica rapa*, and the *Swedish*, or *Ruta бага* (*Brassica campestris*, var. *Ruta бага*). In a wild state, both kinds are found growing in Britain, and other temperate parts of Western Europe. In such condition, they are mere weeds, with tough and stringy roots, and some of the varieties contain a considerable quantity of oily matter of a strongly bitter taste, which is almost entirely obliterated in the most improved kinds, when growing on a suitable soil. So much does the nature of the earth affect the flavor, that turnips sown out of the same packet of seed, will be either tender, sweet, and nutty, or disagreeably pungent, and stringy in texture. To obtain this better quality, turnips should have a well-drained under base, and the very best soil for kitchen use is a pulverized, fresh, and rich sandy loam; the next best is newly turned up, but thoroughly ameliorated vegetable mould, and the very worst is an old, and for a long time worked garden, that has been glutted with stable manure until the whole has become incorporated into a soapy-like humus. All the Brassica, and our present subject in particular, are much benefited by guano, used previous to sowing or planting—say three hundred pounds to the acre. Upon the first mentioned land, a liberal dressing of rotted barnyard manure is also admissible when there is a deficiency of fertilizing material; but in the two latter conditions, it is best to give a dressing of caustic powdered lime at the time of digging or ploughing the land. Superphosphate of lime, when pure, is also good, but does not always pay expenses; and likewise ground bones. The latter has a marked influence, in this instance, on poor soil, and becomes a permanent assistance to any other crops that may follow.

There is no use in attempting to have turnips in the hottest months of summer, as they only produce dry and sticky bulbs, and soon run up to seed, while no difficulty is experienced in securing a good quality during three-fourths of the year, provided suitable kinds are sown, and at the proper times. The Swedish varieties require to be sown in drills eighteen inches apart, and half an inch deep; while the others will have space enough at one foot distance. An ounce of seed will serve for two hundred feet of drill. As the "fly" is often very destructive to the young plants soon after germination, it is advisable not to thin out too soon. The best remedy against this destructive pest, is a free use of water overhead, in the evening, but when this is not applicable, a light dusting of powdered guano will generally save the crop, as will, also, fresh wood ashes, and (though with less certainty) soot or lime. All these contain alkaline or ammoniacal properties, which are obnoxious to the insect, and serve a good purpose as fertilizers. When the plants have grown some four or five rough leaves, there is no further danger, and the superfluity should be then reduced, so as to leave those intended to remain, at eight inches apart. Keep the soil free from weeds with the hoe, but never draw

it up to the plants, which only produces a tendency to push out side roots, and disfigure the bulbs. On the contrary, when particularly clean and handsome bulbs are wanted, they may be obtained by moving the tops from side to side, so as to sever all the roots excepting the main one, which penetrates perpendicularly downwards. This hint may be useful to those who are in the habit of exhibiting, and if practised, will serve such, a good purpose.

The first early crop ought to be sown as soon as the ground is in good working order, after the winter's frost breaks up, and the best kinds for this purpose are *Early White Dutch*, *Early Six Weeks*, and *Early Snowball*. The first is the most commonly accepted, but is inferior in beauty to the other two. This sowing is all that will do any good for the present, but, in the middle of July, and on to the beginning of August, another may be made of the Swedish or Ruta бага varieties, the best of which, for kitchen purposes, are *Skirving's Improved Swede*, and the smaller *Purple-top Swede*. These latter kinds are only used during the winter and early spring, but they are nevertheless good when of the size of a pippin apple; consequently, when there is a preference, they will make a good dish in the fall. The general winter crop of the common sorts, may be put in from the first to the middle, or even last of August, according as the locality is north or south. The middle of the month is about the best time for most of the Middle States, and here I would recommend the *Purple-top Strap-leaved* (a very handsome, flat, and white-fleshed sort, of good flavor), *Yellow Dutch*, and *Golden Ball*, both of which are beautifully formed, yellow in color, and keep well.

Turnips will bear some frost without any apparent external injury, but the texture and flavor are always injured thereby, which makes it necessary to prepare for housing in due time. Choose a dry day to pull the roots, cut off the tops nearly close to the bulb, and throw all that are misshapen or injured to one side. Those that are wanted for immediate and mid-winter use, may be placed in layers, one above the other, in a dry cellar, each of which should have a little dry soil or sand thrown over it, or they may be packed in tight barrels, and covered close with hay or some such like material, to prevent the air from drying and shrivelling them; this renders them very inferior, and often causes bitterness. For the remaining portion, choose a dry spot out of doors, pile the roots in a ridge, the base being from two to three feet wide, cover over a thin layer of straw, and upon this a sufficient quantity of earth, to keep out frost. Sometimes, when these ridges of root crops are made large, or the weather should unexpectedly remain mild or over damp, there is more or less of sweating taking place, which always injures the quality, and often causes the roots to decay. This may be entirely prevented, by standing a bundle of straw on the top of the ridge, at the distance of each three feet, until the earthing is completed, when it is to be drawn out, leaving an aperture for the escape of all fermentation or moisture. After a time, these openings may be closed with earth, and, while they are in use, a "Δ" cover should be put over them, to keep out rain. The earth that is raised up, and placed over the ridge of roots, may be taken from, and around, the base, by which an excavation is formed; this will drain all water away, and keep the whole comparatively dry. When the frost becomes severe, a further covering of litter ought to be thrown over the whole, to insure further protection, and, in the spring, turnips preserved in this way will be found equally as good as when first pulled from the garden.



REMARKS ON THE EFFECTS OF GEOLOGICAL POSITION
ON CERTAIN CONIFERÆ.

BY THE RIGHT HON. THE EARL OF DUCIE.

THE general diffusion of foreign Coniferæ, and their importance, not only as regards the effect which they will eventually produce in our landscapes, but as regards their intrinsic economic value, induces me to hope that a notice of certain peculiarities which I have had opportunities of remarking in a few species, may not be unacceptable, and may possibly elicit papers on the same subject from persons who are qualified to treat of it more fully.

In and about Tortworth Park, at the extremity of the Bristol Coal Basin, the underlying beds of carboniferous limestone and old red sandstone crop out at a high angle, with occasional beds of the Triassic and Liassic formations resting on their flanks, producing not only great irregularities of surface, but important differences both in the constitution and quantity of the superincumbent soil. Over the whole of this ground the more common Coniferæ are planted in great abundance, and, with a few exceptions (owing chiefly, I believe, to geological reasons), they grow rapidly and well.

As a general and sufficiently obvious rule, the Coniferæ thrive in proportion to the depth of the surface soil on which they stand. This is especially the case with the Deodar and *Pinus insignis*. The rule does not, however, appear to apply invariably to *Abies Douglassii*, as I possess specimens growing as vigorously on the cold and sterile shales of the carboniferous limestone, as others on the deep and warm soil of the old red sandstone.

The most fastidious of the Coniferæ which I have had an opportunity of observing is, undoubtedly, *Cryptomeria japonica*. On the limestone its leading shoot is always defective, and its growth generally devoted to the formation of a nest-like mass of small shoots; whilst, on the old red, a formation deficient in lime, its growth is regular, upright, and graceful, and so rapid, that I have no hesitation in affirming that, in this locality, it would outgrow the larch.

The Deodar, on the other hand, appears to be the least discriminating, and the most accommodating of all the Coniferæ. No position, and no variety of soil, appear to come amiss to it; on lime or sandstone, rock, or clay, it grows with equal facility, though depth of soil, as before stated, invariably contributes to rapid growth.

Pinus insignis appears to prefer the old red to the limestone; on the latter formation it maintains its health, but its annual growth is comparatively small. The most vigorous specimen of this Pine which I possess, stands on a deep loam, formed by the detrital matter of the overhanging hill, at the point of contact of the old red sandstone and the clay of the lower lias. This tree, which was planted about the year 1843, is now forty feet high, and, at one foot from the ground, five feet in circumference.

Araucaria imbricata, though planted in considerable abundance, and in every variety of soil, I have not been able to detect any decided preference for one formation over another. It has an evident dislike to a wet locality, and it generally, though not exclusively, thrives best upon a deep soil.

Cupressus funebris, and *Cupressus Goveniana*, are both growing vigorously on limestone rock, with but little surface soil. The former of these trees is thriving equally upon a deep soil of the old red sandstone. *Cupressus macrocarpa* is growing rapidly on the clay of the carboniferous limestone.

Taxodium sempervirens appears to be extremely capricious in its taste as regards the formation on which it grows; but I have in several cases remarked that it thrives, and even appears to luxuriate, in a shade which proves deleterious, and often fatal, to *Pinus insignis*.

There are many other *Coniferae* which appear to manifest habits or tastes peculiar to themselves; but which are either too young, or in numbers insufficient to justify me in attempting to generalize upon them. Indeed, all the remarks which I venture to offer in this short paper, are not made with a view to dogmatize upon the subject, but in order to call the attention of persons cultivating this tribe of plants, to the importance of selecting the position of such *Coniferae* as show any decided tastes. With some reference to geological position, it is true that many formations are not often met with upon one estate, more especially in one park—the locality in which the more valuable *Coniferae* are generally planted; but where such conditions do occur, a knowledge of the formation in which each species appears to thrive best cannot fail to prove important. Before such knowledge can be attained, more extended and more accurate observations will be necessary; and should this paper prove the means of calling the attention of more competent persons to this study, I shall feel that I have not recorded my brief experience in vain.—*From Transactions of the Scottish Arboricultural Society.*

EXPERIMENTAL GARDEN.

BY A MEMBER OF THE PENNSYLVANIA HORTICULTURAL SOCIETY.

I WAS pleased to read the address of "Viator" to the various Horticultural Societies in your last number, and trust the different successful associations will move in the matter of experimental gardens. Horticultural magazines and horticultural societies have done a vast deal towards the present advanced stage of American gardening; but to me it seems that both of these combined are not able to effect so much good as the example of a well conducted garden would. So far as our society is concerned, I do not think there is one who has taken the least interest in its success, who is not of the same opinion; indeed, it is a subject which, as a body, they have often had under consideration, and which they have long looked forward to as a cherished object. I have not been connected with the management or business affairs of the society sufficiently to understand the reasons why something of the kind has not been attempted ere this; but I judge I am not far wrong in the impression that it is either from a fear that their resources are inadequate to its establishment, or that they have a doubt as to its power to sustain it afterwards. Should I prove correct in my surmises, and it turn out that there are really no other objections, I shall begin to hope that, with the assistance of a few such friends as "Viator," the day is not far distant when I shall enjoy a ramble through "The Society's Garden." If the resources are limited, we have only to keep within their bounds. It is not prudent, even with large resources, to begin too largely at first. An establishment of say five or ten acres, thoroughly well kept, and in a prosperous state, would draw around it more support than a princely affair that, with difficulty, eked out a beggarly existence. Though everything should not be attempted at once, whatever was begun should be completed in the most perfect manner, and sustained with liberality and judgment. So far as it went, it should be a model of its kind. If our society will only attempt it, there need be no fear of the result. If their finances are too low, an appeal to the citizens judiciously made would be liberally responded to. Once started, and on a proper basis, it would, I am sure, flourish

by its own vital force, and with very little external aid. As a member of the Pennsylvania Society, these suggestions are made to it particularly from a pride I should naturally feel in seeing it the first to move in the matter. I do hope, however, that either it or the equally prosperous ones of Massachusetts, Cincinnati, or Brooklyn, &c., will proceed to consider it, believing, as I do with "Viator," that there is nothing more capable of diffusing a popular taste for gardening than such establishments.

In conclusion, Mr. Editor, allow me to compliment you on the support you have given your correspondent. Had your lamented founder, Downing, lived, we should have had something of the kind ere this. But a short time before his death, he was so impressed with the importance of such an establishment that it was a constant theme of conversation with him; and, if I mistake not, he penned a powerful essay on the subject but a few months before the catastrophe on board the "Henry Clay." You could not just now offer a fitter tribute to his memory than to revive, encourage, and stimulate this, one of his pet projects.

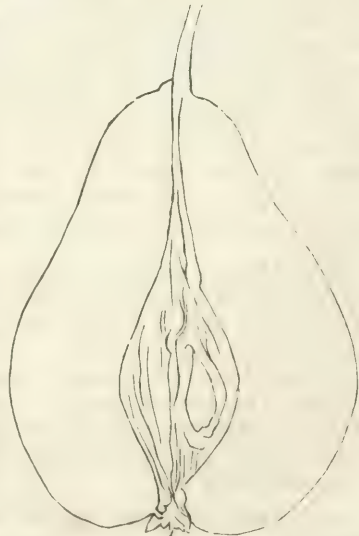
[We are pleased to find this subject is attracting attention; sooner or later we must have such gardens, and the sooner the better. If not undertaken by societies, we would call attention to a plan, formerly suggested, of a few gentlemen uniting for such a purpose. In regard to exhibitions, the first step has yet to be taken for a competition in boilers, and all sorts of heating apparatus, collections of garden implements and tools, machines, glass-ware, protecting materials, cement work, flower-pots and vases, garden engines and syringes, wheelbarrows, hand-pumps, transplanting machines, wire netting, fumigators, scrapers, &c. &c., and even greenhouses themselves.—Ed.]

RANDOM NOTES—COLLECTED FOR HORTICULTURIST.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

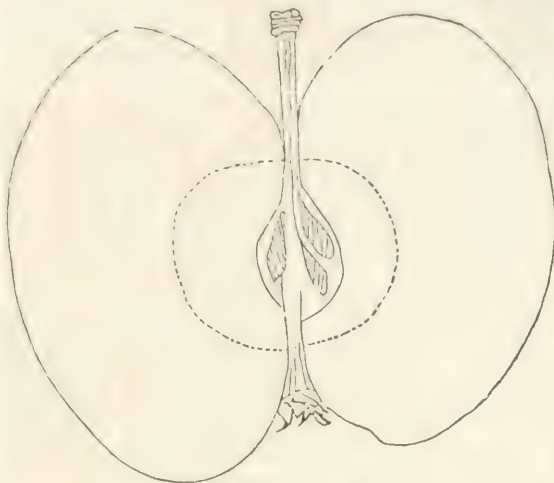
The Lycurgus Pear.—This is a new variety of winter Pear, raised from seed by George Hoodley, Esq., of Cleveland. It resembles the "Martin See" somewhat, in size and form, but a little larger. It has all the sugary character of that variety, with more juiciness, and a melting, buttery texture. It ripens in January. For a full description, see revised editions (now in press) of *American Fruit Growers' Guide*.

Vine Pruning. (See drawing, p. 367.)—Accompanying herewith, I send you a drawing, giving a representation of the results of a judicious system of pruning the grape-vine, to induce and evenly distribute its fruitfulness. The drawing was made by one of my correspondents from a vine in his grounds (out-door culture). It occupied a space of four feet high and three feet wide, and produced and perfectly ripened sixty-seven bunches of fruit.



Lycurgus Pear.

The Carpenter Apple.—This is a new variety, originating with Mr. Charles Carpenter, of Kelly Island. The tree is a strong, healthy grower, producing



Carpenter Apple.

annually and abundantly. It is not above second-rate as an eating apple, but is an admirable keeper, and excellent for cooking from November to May. As an eating apple in May and June, it has, however, at the time, few superiors. It is new; never before named or described.

Fruit, above medium, roundish, flattened, oblique. *Skin*, rather rough, rich lemon yellow, deepening in sun; often a ruddy, rich, red cheek, and thickly dotted with small gray dots, apparently raised upon the surface. *Stem*, varying; sometimes thick, short, and stout, again medium in

length and size. *Cavity*, open, deep, regular. *Calyx*, large, open. *Segments*, five, distinct, long, reflexed. *Basin*, deep, round, regular, slightly furrowed. *Flesh*, yellowish-white, crisp, breaking, juicy, sharp, subacid. *Core*, medium, compact. *Seeds*, long, ovate, pointed. *Season*, February to May.

The Kirtland Cherries.—However strange it may seem, and unwilling as the world may be to believe that one man could in so short a time originate from seed so many superior varieties of cherries, it is nevertheless true. Season after season only proves the fact that all that has been said of them is correct, and that, as they become known, they will take precedence over all varieties yet introduced.

The originator (Prof. Kirtland) invites the world to produce two varieties equalling, in all respects, the "Gov. Wood" and "Kirtland's Mary." To these I would add "Black Hawk" and "Delicate." The latter rivals in delicacy the Belle de Choisy, when in its best condition, and the tree is far more productive.

The Professor has several more trees of his seedlings that "promise well," and of which notes have been made, and, in due course of time, will be given to the public.

Some Eastern originators might copy a good example from Western men, viz: by sending out grafts of new sorts gratis, or, at least, at fair prices; not charging five dollars a tree, as is sometimes practised. Prof. Kirtland has freely distributed grafts of his cherries gratis.

Peas.—From my note-book I copy some memoranda of peas, made last season. I plant all my sorts at same time, and generally from eight to ten inches deep. I thus get a succession of fruit, and the roots being in cool ground, the vines continue to grow, and produce much longer than when planted two to three inches deep, and hilled up.

Early Dwarf.—Earliest. Height, two feet. Pods, short but full. Productions, most desirable.

Early Charlton.—Not very early. Three to four feet. Good-sized pod. Strong standing vine.

Bishop's Early Dwarf.—Blooms freely. Short pods. Eighteen inches high. Not profitable.

Green Prolific.—Eighteen inches to two feet. Short pods. Productive. Not extra early.

Blue Imperial.—Two to three feet. Full, showy pod. Productive. One of the good ones.

Early Washington.—Nearly as early as *Early Dwarf*. Vines not as strong. Pods about same.

Champion of England.—Three to four feet. Vines strong; sets full. Pods large; eight to ten peas in each one of the very best.

Large Dwarf Marrowfat.—Four feet. Side by side with *Champion of England*. Two weeks later.

Sugar or Eatable Pod.—Four feet. Strong vines. Not as productive as *Champion of England*, but one of the good sorts.

Prince Albert.—Two to three feet. Early. Pods medium, full. Vines strong. Very good.

Your correspondent, "A Pennsylvanian," in July, last year, says: "I place Belmont or Mamma Beam Apple as from Virginia." Please ask him to refer to my book, and state just what I do say. There has been much dispute as to the origin of this apple, and others have written who claim to know as much as "A Pennsylvanian."



Pruning the Grape Vine.

THE BEST GRAPES.—The largest and finest forced grapes we have seen this season were produced by the care of Mr. William Chorlton, on Staten Island, N. Y. Such glorious bunches of Cannon Hall Muscat, and Muscat of Alexandria, have never before met our view. Mr. Chorlton practises well what he teaches so thoroughly in his book on the grape.



R E V I E W .

Villas and Cottages. A Series of Designs, prepared for Execution in the United States. By CALVERT VAUX, Architect (late Downing and Vaux), Newburgh. Illustrated by 300 Engravings. New York.

WE have risen from the perusal of this work with a strong impression in its favor. It seems to us to mark a progress among us, when such wholesome truths as our author tells, are boldly written and fearlessly promulgated. His topic is a large one; it is a highly important subject, embracing almost, if not quite, the question whether a nation shall be highly civilized, or half barbarian? It is, moreover, a difficult topic, and one on which more authors have been utterly inane than most. In what regards the protection and accommodation of civil life, connected with religion, legislation, science, commerce, and domestic purposes, the exercise of architecture is so completely influenced by the state of knowledge, power, climate, &c., that it has always been found one of the most distinctive features of that people, from among whom the specimens were selected. In tracing its origin and progress, therefore, not only the various genius, but the leading outlines of the history of each people, will be delineated. In their public works we have their history, not drawn by speculative strangers, at different periods of time, but in characters produced by native hands, guided by the united disposition of a whole people, arising out of the combination of all the knowledge, power, and prevalent ideas of the times when they were constructed. By a comparison, therefore, of the different works in architecture, we are not only made acquainted with the different characters of the several portions of mankind under various climates, but we also see distinctly the effects of political changes on each separate nation.

These observations are not confined to buildings adapted to the purposes of civil life alone, but are equally conspicuous in all that are constructed for the operations of war, whether the increasing rivalry of nations have rendered it necessary that they should be carried on by land or sea. The works of each are of great importance to the concerns of mankind. Government takes under its charge the naval and military constructions, but leaves the civilians to take care of themselves. Fitting teachers are therefore important, to guide the taste of a people like our own, where we have the utmost freedom, and plenty of means to do as we like with brick and wood, and to outrage the proprieties as we please.

Downing was among the first who came to the rescue; he exhibited to our population that living in houses well designed and neatly constructed, well colored and well ventilated, was a much more rational proceeding than had heretofore been believed, and we were taught by him, that to make home lovable, it should be made attractive. From his advent, we date a vast improvement, but that improvement must still be onward. In Mr. Vaux, we find evidences of a determination to teach all that is known; he throws out hints of vital import, and insists upon our keeping an eye upon the solid benefits which flow from increased knowledge when backed by increased means and a higher civilization. Such men do a positive good; they not only make their marks on the age in which they live,

by their correct architecture, but they teach those who have already their houses constructed, how to occupy them, and what should be their aims for their busy, no less than their idle moments.

We do not propose (nor could we if we wished) to enter into a minute analysis of this large and beautiful volume. We are even more struck with the preliminary chapter than with the handsome houses figured, and their descriptions, and shall be content to-day with a few extracts, to exhibit the force with which the author grapples with a topic on which it is more rare than would at first appear, to be original, agreeable, and concise.

Mr. Vaux argues correctly that a simple, well planned structure costs less to execute, for the accommodation obtained, than an ill-planned one. His instructions are well considered, and appropriate to the wants of our country. We like, especially, his remarks on the spirit so rife among us that would consider money the greatest good. When we hear people living in the country talk exclusively about railroad and bank stocks, fast horses, and wine, we pity them, and can adopt the language of our author when he says:—

“There cannot, indeed, be a more unpleasant spectacle than to see active, intelligent men, with long faces and knit brows, incessantly sacrificing time, health, home, and peace of mind, to the one old ‘Moloch’—*business*, as if perpetual imprisonment were too good for reprobates, and business must, therefore, be converted into a portable bastille for the use of honest men. Every father, whatever may be his position in life, should undoubtedly use his best endeavors to enrich his children, but not chiefly with money. He should rather aim to start each one from a higher point of industrious, liberal civilization than he himself commenced at, and strive to relieve him from the difficulties that obstructed his own path. The exercise of such a spirit of foresight and progress would soon lead to artistic results worthy of the nineteenth century. It is worth remembering, too, that no occupation need be undignified, no labor graceless.”

* * * * *

“There is a section of the community to be provided for—the born rich. Individuals in this predicament, in some parts of the world, have a gratifying position at once accorded them on account of their property; but this is far from being the case in America. There is a great deal of toil and consequent wealth in the United States; still, it is money-making, not money made, that commands respect. The science of spending is imperfectly understood, and the unsatisfactory results are apparent enough; but the idea of a moneyed aristocracy is everywhere repelled, at heart, with a scorn so contemptuous that it can scarcely be called indignant. A dilemma springs up from this state of things. Idleness is abhorred by successful men; they insist, therefore, on their sons becoming lawyers, or doctors, or going into business. Then follows a failure, in the majority of cases; for the spur to exertion that makes such pursuits satisfy men, is, in these instances, entirely wanting, as pecuniary circumstances do not, in the least, require the effort. Rich Americans fear lest their offspring may be looked on as useless members of society, and the instinct that leads them to do so is well enough as far as it goes, but the natural independent comment on it all is: Why spend so much time in making and saving money, if it is to be rather an incumbrance than otherwise to the next generation? The real difficulty, and it is a serious one, is the limited range allowed by custom to intellectual energy. It is neither fair to the individuals nor to the society of which they are responsible units, that the sons of rich men should be tied down to one or two money-making pursuits; they ought to be in every department of literature, science, and art, not as dilettanti connoisseurs, but as earnest laborers, striving boldly for a higher national excellence than has yet been achieved. This is *their* proper post. Poor men can scarcely afford to occupy it. It is a glorious position—the only proper one for them to assume; and so long as they neglect it, so long will wealth be misunderstood and misapplied. The rich should study to be practical theorists, so that the less rich may be theoretical practitioners. Every young republican of means in America, should aim to be *aristocratic* in its literal sense; that is, to be ‘*aristos*’—the very best. He has advantages which his comrades have not. He can afford to give ample, unembarrassed study to any subject that suits his powers, and to work out its resources quietly and steadily. He should be one step in advance of the rest of creation—a leader in the foremost rank of the foremost band. The value of a class of men thus occupied would be

unquestioned, and it would not be so unnatural, then, for a parent to labor for money, so that his son might enjoy the rightful opportunity to live an easy life of elevated action and noble exertion."

The number of *poor rich men* is becoming every day greater in this Union. The mere rise of real estate has placed very many in independent circumstances which they know not how to enjoy, from neglected education and energies thrown away. Some retire to the country, but when the architect and the planter have been dismissed, they feel an utter vacuity of mind, and if they are not famous sleepers, they go to the bottle or the card table. Had they been taught a single branch of natural history, or imbibed a love for a garden and for trees, their time would never hang heavily on their hands.

Education should begin early. "The lack of taste all over the country, in small buildings, is a decided bar to healthy, social enjoyments; * * a refined propriety, and simple, inexpensive grace, ought habitually to be the distinctive marks of every habitation in which a free American dwells."

"Unfortunately, however," continues our author, "this is not the case. Even the village school itself, in which the earliest and most active germs of progressive thought are commenced, is almost universally a naked, shabby structure, without a tree or a shrub near it, and is remarkable chiefly for an air of coarse neglect that pervades its whole aspect. The improvement of the village school-house is probably the most powerful and available lever that can be applied toward effecting a change for the better in the appearance of rural buildings generally: all see it, all are interested in it, and all are more or less influenced by its conduct and appearance. It is placed under the control of the leading men in each place, and it might easily be made the most cheerful and soul-satisfying building in the neighborhood, instead of, as at present, a God-forsaken, forlorn-looking affair, that is calculated to chill the heart and insult the eye of every thoughtful beholder. The cost would be utterly incommensurate with the advantage to be obtained. An extra hundred or hundred and fifty dollars at first starting, would do much. The roof might then have a good projection, and be neatly finished. Some sort of simple porch might be added, the chimney might be slightly ornamented, and the rest would then depend on proportion, color, and surrounding the building, from time to time, with shrubs, creeping vines, and young trees. These, in after years, would offer a welcome shade, and give an air of domestic comfort and liberal vitality to the whole effect. A similar result, through precisely similar means, would probably, in course of time, be arrived at in the small cottages in its vicinity, and, as success would be cheap and invariable, the example would have a fair chance of spreading."

It is one of our painful duties to pass several times a month a public school-house near Philadelphia, where a large collection of children are supposed to be educated; every inch of the yard, not trodden over, is filled with the vilest weeds, and in wet weather the approach is through deep mud. What can be expected of children when they are educated to think such a scene even bearable? The selection of the directors, or of the teachers, in this particular instance, must have been an error.

There is much, in the same strain of good sense, which our limits forbid us from copying. One additional extract will afford the reader an opportunity of judging of the merit of the book, which we have the more pleasure in commending, because it has not been sent to us for notice:—

"It has been, and is too much the custom, both in town and country houses, to consider the dining-room as a part of the house to be used solely for eating and drinking purposes, and to give it but little attention for that reason. It is, indeed, quite common to find, even in comparatively large houses, a meagrely-furnished apartment in the basement set apart as the scene of whatever daily festivity is carried on in the house.

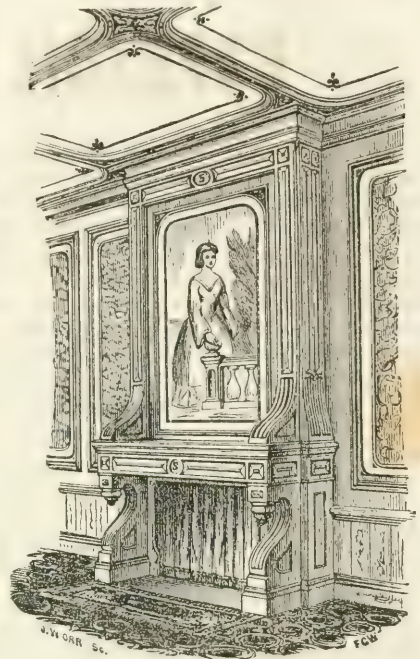
"If a country residence is built on sloping ground, so that the basement rooms on one front are entirely unobstructed, and are supplied with windows overlooking the garden, this objection is not so strong. But even then, the trouble of going up and down stairs to and from the sitting-room is annoying, and it is far preferable to have both rooms near together

on the principal floor. But when, as is generally the case, the house is built on level ground, and the lower rooms are lighted solely by area windows, nothing can be more entirely opposed to the idea of freedom that is suggested by life in the country than a basement dining-room. It is in this apartment that the different members of the family are sure to assemble several times a day, though they may be almost completely separated at other times by circumstances, or the various pursuits that occupy their attention, and it is highly desirable that such a room should fitly and cheerfully express its purpose, and be one of the most agreeable in the house, so as to heighten the value of this constant and familiar reunion as much as possible, and to encourage in every way, by external influences, a spirit of refinement and liberal hospitality. The fact is, that the art of eating and drinking wisely and well is so important to our social happiness, that it deserves to be developed under somewhat more favorable circumstances than is possible in a basement dining-room. There is no necessity, in any country house, that such a room should be restricted in its use to one purpose. If fitted up with book-cases, and enlivened by engravings, it will be constantly used as a family room; for, with proper pantry arrangements, it can be left entirely free in a few minutes after each meal."

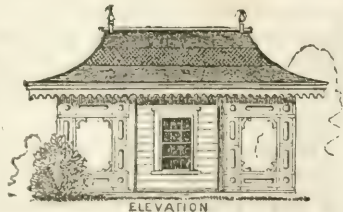
The accompanying vignette gives a slight sketch of an oak mantelpiece, introduced into a design for a dining-room, executed for H. W. Sargent, Esq., of Fishkill Landing, on the Hudson. It required to be simply planned, so that it could be easily executed in the country by a clever carpenter. The effect is excellent.

No previous volume has appeared among us, on this subject, so ably illustrated, and though the reader in search of a model for his dwelling, should fail to find the exact picture that will suit his wants, he cannot read the text without acquiring an amount of information vastly beyond the cost of the book.

We have prepared some copies of Mr. Vaux's able illustrations, but having exhausted our limits, must be content, this month, with a vignette illustrating a study for a garden out-building, supposed to be situated where it *must* be seen, more or less. Mr. Vaux says it has not been executed. We look upon the work as of so much importance that we shall return to it.



Design for Oak Mantelpiece.



FOREIGN NOTICES.

BUDDING ROSES—Among the many methods for budding roses, I have found none answer so well as the following, which I have adopted for some time, and which, I think, should be more generally known. The bud for insertion is taken off the shoot very close to the eye; the tip, or part of the bark below the bud, is cut off quite close, to allow the bud to be pushed closer into the stock without being bruised. It then requires only to be tied above the bud, and a composition applied to exclude the air and keep the bud cool, consisting of two-thirds cow-dung and one-third stiff loam. The bud requires no untying, and gradually grows so closely into the stock as hardly to be distinguished from a shoot, and is not so liable to be blown out or injured. The composition is applied in a liquid state with a small brush.—JAMES SKIRVING. *Downham.*

THE CANNON HALL MUSCAT GRAPE.—If this Grape could be managed so that a sufficient quantity of berries could be set on every part of the bunches, and the gangrenous spots prevented on each berry, it would be the finest grape in the world, both for size of bunch, size of berry, and rich, vinous, musky flavor. When even in tolerable perfection, I know no grape to equal it. Unfortunately, it is what we call "a bad setter;" that is, the fertilizing powder is either deficient in quantity, or has no power to cause the seeds to mature. Hence the berries either drop off or are ridiculously small. To prevent, or rather, supply, this deficiency, it is advisable to apply pollen (the fertilizing dust), taken from some other variety. The pollen of the common Muscat will answer well, or even of the still more common Black Hambro'.

The second desideratum, namely, the preventing of the blackish broad spots which often appear on the finest berries, has just been attained by the gardener above mentioned (Mr. Acomb). He says it is caused by an acrid liquor, generated in spots under the outer skin of the berry. Whenever he observes the blister (for it has much that appearance) he opens the skin with a pin's point, and lets out the liquor, which cures it completely, leaving only a small scar. I saw several berries so punctured, and they appeared quite healed. He had practised this for three years with perfect success. Let every grower of this fine Grape try this simple remedy for this destructive disease. I have no doubt he will be equally successful.—T. APPLEBY.

WALL ROSES.—The secret of growing roses against a wall might be packed in a lady's thimble. A two feet deep border of strong loam, four or five feet wide, to be as rich as rotten dung can make it; the border to be thoroughly soaked with soft pond-water twice a week in dry weather, and when the roses are in bloom, to keep them thin in the branches, as if they were peach-trees, and to play the water-engine against them as for a house on fire, from the first appearance of insects till no more come. There is a reason for everything under the sun, and the reason for insects attacking roses in general, and those on walls more particularly, is from too much dryness at the roots, causing the juices to be more palatable through the action of the leaves.

COLORS OF FLOWERS.—The fugitive property of some colors is well known, and in no way better exemplified than as they naturally exist in flowers. The fume arising from a common sulphur match, which is, in fact, sulphuric acid, will change purple and crimson colors to pink. The blue, in combination with red, is readily discharged; indeed, a pink or purple flower might be completely bleached by holding it in the fumes of sulphur. Thus roses and dahlias have been made to assume a variegated and very novel appearance. Bright pink stripes and veins may be produced on the dark purple petals of pansies, and other dark-colored flowers, with a camel-hair pencil and oil of vitriol, to yield rather a pleasing effect. Such lines should not be drawn to the edge of the petal, or a little injury will soon be evident; nor should they be strong or near together, as they quickly spread.—*Maund's Auctarium.*

SALVIA GESNERIFLORA.—The brilliant scarlet flowers of this plant make it a most attractive object in the greenhouse. As soon as it has done flowering, cuttings should be taken off, and struck in a moderate bottom heat; and, when struck, harden them off gradually till they will bear placing in the open air. Repot as they require it, using soil as follows: Two parts turfy loam and one part rotten manure. Give them plenty of drainage, but never let them want water. A little weak liquid manure will assist them. I always bloom my plants in large pots. By liberal treatment I get good specimens by autumn, some of which I use for early forcing (for which purpose they answer admirably), while others come in well for blooming in the greenhouse. I never keep the old plants a second year, as I find young ones, well managed, do better, for they not only bloom more satisfactorily, but the flowers are much larger.—*Mid. Flor.*

DIELYTRA SPECTABILIS (now DIERVILLA).—Although the *Dielytra* is properly classed as a spring flowering plant, yet, if propagated by cuttings of the young shoots in the spring, and planted out in June in a sheltered situation, it will continue to throw up a succession of blooms till late in the season. It thrives best in a rich light soil, and should be plentifully supplied with water in dry weather. Last season I saw a bed so treated in the front of a greenhouse, in bloom in September, and it appeared likely to continue in flower much longer, if frosts did not occur. To procure a stock of plants, a few old roots should be placed in heat in February; take off the young shoots as they advance, and strike them in a similar way to dahlias; they should afterwards have a shift, and be kept in a frame till all danger of frost is over, when they may be planted out as above.

Another authority says:—

It is decidedly wrong to recommend dividing a plant of *Dielytra* at any season it may be in growth, with the view of strengthening the plant. You may divide it for the purpose of increasing the number of plants.

The way to manage them for large specimens is to put them into their *flowering-pots* as soon as it is safe to turn them out after flowering; to plunge the pot one inch over the rim in a warm, sheltered place, where the wind is not likely to affect the shoots; to see that the plants do not want for water, or have too much of it; to cut them down any time after the 20th of September; to take up the pots and turn them on their sides in a dry shed or outhouse early in November. When we transplant the roots from the open ground the flowers are not so fine.

CAN FLOWERS BE GROWN IN A CITY?—This question has often been asked by the admirers of those fragrant gifts of nature. As a lover of a garden, and being doomed to pass the greater part of the year in a city, I determined to try

if I could not have a few of my favorite companions around me. I erected a small greenhouse (against a western wall), and have now as good a show of plants in blossom as I ever saw in the county of Wicklow, where our country-place is situated. I have had some fine *Cineraria* plants, several remarkably good *Cytisus*, and several fine forced roses. I think, from my observation of a town garden, that the best growing plants are Roses; next, *Cinerarias* and *Cytisus*. Sweet-scented *Geraniums* thrive very well also. To any one determined to pay a little attention to flowers they can have as good a bloom of the above as if they lived a hundred miles from the smoke of a city. I hope to fill my greenhouse with some *Pelargoniums* I have kept back in a small frame.—FLORA.

BEAUTY OF FLOWERS.—Who would wish to live without flowers? Where would the poet fly for his images of beauty, if they were to perish forever? Are they not the emblems of loveliness and innocence—the living types of all that is pleasing and graceful? We compare young lips to the rose, and the white brow to the radiant lily; the winning eye gathers its glow from the violet, and the sweet voice is like a breeze kissing its way through the flowers. We hang delicate blossoms on the silken ringlets of the young bride, and strew her path with the fragrant bells when she leaves the church. We place them around the marble face of the dead in the narrow coffin, and they become symbols of our affections—pleasures remembered and hopes faded, wishes flown, and scenes cherished the more that they can never return. Still we look to the far-off spring in other valleys—to the eternal summer beyond the grave, when the flowers which have faded shall again bloom in starry fields, where no rude winter can intrude. They come upon us in spring like the recollections of a dream, which hovered above us in sleep, peopled with shadowy beauties and purple delights, fancy brooded. Sweet flowers! that bring before our eyes scenes of childhood—faces remembered in youth, when Love was a stranger to himself. The mossy bank by the wayside, where we so often sat for hours drinking in the beauty of the primroses with our eyes; the sheltered glen, darkly green, filled with the perfume of violets, that shone in their intense blue like another sky spread upon the earth; the laughter of merry voices; the sweet song of the maiden—the downcast eye, the spreading blush, the kiss ashamed at its own sound—are all brought back to the memory by a flower.—MILLER.

OBSERVATIONS ON FORCING HYACINTHS.—To make Hyacinths flower early in December, they should be planted the beginning of August, and the pot plunged, in the open air, to such a depth that they may be covered with mould to the extent of four inches. They should be taken out again about the middle or end of October, put in warm tan or sand in a hothouse, near the sashes, and kept moist. If treated in this manner, and kept moist and warm, they will not fail to flower about the beginning or middle of December. Many other sorts may be brought into flower about the beginning of January. Those forced Hyacinths which are intended to flower in February and March should be planted in September and October, or even about the middle of November, the pots being plunged in the open air, and covered with mould. A bed should be made at the beginning of January, consisting of horse dung, four or five feet deep; it should remain in that state about a week, and then as much mould added as will cover the pots when they are sunk in it. The pots should be now all put in, and the sash raised four or five inches to admit air both night and day, so that the steam generated by the heat may readily escape. This must not be neglected, even during frosty weather, otherwise they will perish. During a severe frost it may be thought

that admitting the air is quite unnecessary, but it should not be omitted, only hanging cloths over the opening.

EARLY BLOOMING ACACIAS.—Many plants, of which the natural season of blossoming under glass is in the winter or early spring months, acquire additional value from that circumstance, because their intrinsic beauty is then heightened by contrast with the “desolation that reigns without.” Many of the New Holland Acacias possess this desirable property, which, in some species, is combined with exceeding beauty, as well as gracefulness of habit; consequently, there are no plants better adapted for ornamenting a conservatory, where they can be allowed sufficient room to display unconfined their elegant growth. One of the finest species for this purpose is *Acacia dealbata*, of which there is a splendid specimen, now in the height of its beauty, in my own conservatory. I have seldom seen a plant of any kind equal in beauty to this, its wide-spreading branches being completely covered with a garment of green and gold, or more strictly speaking, with green and deep lemon color; the latter color greatly predominates, however, for the flowers are so numerous that they almost hide the pretty bipinnatifid leaves. This tree roots into a border beneath the floor of the house, and its stem was originally trained to one of the pillars that bear up the roof; but the stem is now larger than its former support, and the branches extend in different directions to a distance of several yards. It has been planted about eight years. A fine plant of *Acacia vestita* grows against another of the pillars. This, from its profuse flowering and pendulous habit, is a very handsome species, and requires much less room than *dealbata*, which precedes *vestita* in flowering by nearly a fortnight. To these might be added other desirable kinds, as *Acacia armata*, a very free flowering species, with flowers like golden balls; *A. Lophanta*, with long spikes of whitish flowers; *A. verticillata*, with whorls of leaves like spines; *A. melanorhylon*, the Black Wattle of the Australians, with very curious leaves, the foot-stalks of which look like leaves, with the real leaves hanging to the points of them; and *A. pubescens*, a very elegant species, with drooping branches and racemes of ball-like flowers, borne in the greatest profusion. Indeed, all the species of this genus are highly interesting, and most of them elegant ornaments for the greenhouse or conservatory, deserving of general cultivation.

LAPAGERIA ROSEA.—This splendid plant has hitherto evaded many attempts among us to cultivate it. We find the following account of its treatment recommended in the *Gardener's Chronicle*:—

The handsome *Lapageria rosea* has been beautifully in flower. It was growing in a wide shallow pan, in which it is found to succeed perfectly. When the proper cultivation of this plant shall have become better known, it will rank among the finest of all greenhouse climbers.

A plant of this *Lapageria* has been blossoming most beautifully in the nursery of Messrs. Veitch, at Exeter, where it produces flowers every year in the greatest profusion. In that establishment it is planted out in the border of a cool house; a large hole was dug for it, and filled with plenty of good turfy loam and peat, leaf mould and sand, all well mixed together. A particular point in its management is stated to be that it likes plenty of water while in a growing state; in order, therefore, to permit of this being given, the soil in which it grows must be thoroughly drained. In short, efficient drainage, plenty of water, a loose porous soil, and a cool house, are all that is necessary to insure this fine plant growing and flowering abundantly, as it should do. It may also be mentioned that the blooms will keep fresh and beautiful for a long time after being cut, even

in a warm sitting-room, and thus is added one of the most beautiful of climbers to the list of plants adapted to cutting for the bouquets now so generally employed in internal decoration.

THE COCOA-NUT PALM.—Of all the gifts which bountiful nature has bestowed on the inhabitants of the tropics, this, perhaps, is the most valuable, and certainly the one most fitting them for a paradisiacal state of idleness. What other fruit is there in which, as in the Cocoa-nut, we find a refreshing beverage contained in a cool limpid state in a nutritious pulp of the consistence of blanch-mange, and as agreeable to the taste? In a young nut, the lining pulp of which was thin and almost of gelatinous softness, the quantity of contained fluid exceeded rather half a pint. It was quite clear, as much so as spring water, pleasantly, slightly sweet, of specific gravity 10183. The pulp was rendered brown by the tincture of iodine. No starch particles could be detected in it under the microscope, nor oil globules. The water of a ripe Cocoa-nut, much less in quantity and nearly transparent, was of the specific gravity 10203. It did not become turbid on boiling, or by the addition of acetic or nitric acid. Sugar, it may be inferred, was its principal ingredient. The lining pulp was found to consist of 36 per cent. solid matter and of 64 water, as determined by thorough drying. As is well known, it abounded in oil. I could detect in it no starch particles. In composition, I believe it to be very like the ripe almond. The emulsion it makes is equal to that of the almond, and is an excellent substitute for milk for tea. The Cocoa-nut Palm, I may add, thrives best by the seashore; it thrives even within high-water mark. Viewed in this light, may it not be considered as designated by a kind Providence to yield a drink in situations in which springs of fresh and wholesome water are often not to be found. It is only the traveller in such regions who can justly appreciate its value, and be sufficiently thankful for such a blessing. In Ceylon, the natives are in the habit of putting a portion of salt into the ground when they plant the nut, so convinced are they that salt is required for its successful growth.—DR. DAVY, in the *Edin. New Philosophical Journal*.

VARIEGATED PLANTS.—At the Crystal Palace Exhibition near London, a Mr. Salter, among other variegated plants, showed a strawberry and a lily of the valley.

DWARF TREES.—There are many miniature trees, which typify their more gigantic brethren of the forest, that may be introduced with advantage to grounds of limited extent, and which, after many years' growth, arrive at only a few feet elevation. Of elms, there is *Ulmus riminalis*; maples, *Acer creticum*; beech, *Betula nana*; alder, *Alnus glutinosa oxycanthaefolia*; chestnut, *Pavia flava*; besides which are others less known as *Tilia laciniata*, *Pterocarpa Caucasica* (a type of the walnut), with several dwarf oaks, the neatest being *Quercus Ilex coccifera* and *Quercus ilicifolia*; *Buxus balcanica* makes a pretty tree in sheltered situations; *Caragana Chamlagu* is a very graceful tree—the foliage a bright, handsome green, which, with the pretty blossoms, produce a handsome effect; *Robinia hispida*, when worked on a short stem, is unrivalled for beauty. Small evergreen trees, of great value for ornament, may be made of *Juniperus recurva* and *squamata*. There are not many pinuses suitable for the purpose, as the majority are too tall and rapid in their growth, but perhaps *Pinus cembra* (which is a handsome species, and of very slow growth), may be admitted, and the singular *Araucaria imbricata* is many years in attaining an objectionable height.

A RUSTIC BASKET GAY IN SUMMER.—The Rustic Basket is the best design for a flower-garden; and if people would but countenance such artistic designs, instead of the present race of hideous mongrels which offend the eye at almost every turn, it would be really worth while to write about how to fill them with the most appropriate flowers.

“W. W.’s” rustic basket should not have more than twelve inches depth of mould in it. On no account leave the pedestal full of mould, at least, not more than this season. All baskets and vases should have more holding soil than flower-beds for the same plants; a stronger kind of loam: in a country place, sheep’s droppings, gathered a month before, make the best manure, and give the best mechanical texture to the loam. Three inches at the top should be mixed with leaf mould and some sand, so as to make a light, rich, mellow soil of it. They plant and manage the vases very well indeed at the Crystal Palace. But you may make your rustic basket more gay and telling than any of their vases, if, after attending to the compost just indicated, you keep the planting *strictly* to three kinds of plants; two of them to be of most distinct colors—scarlet and yellow; and the third, a half-distinct color—a pale blue; and plant them on this wise: Take, first, a pale blue running *Lobelia* of the *Erinus* breed; they are in all the nurseries, but avoid *Ramosoides*; it is too upright, and too dark a blue next the wood-work. Nothing suits so well here as a pale blue. The plants are in sixty pots; turn one out, and *flatten the ball gently* between your hands till it is nearly as flat as a pan-cake, but do not hurt a root. Open the side at the very edge of your basket, and *lay down* the flattened ball with the root end of the plant as near the rim as possible; the herb part of the plant will then point out horizontally over the edge of the basket, and so on all round, making nearly a continuous hedge all round. Smooth the surface of the basket now, and plant a row of young *Tom Thumbs*, with the heads slanting. After the *Lobelias*, then another row of old *Tom Thumbs*, quite upright, and fill the middle with yellow-bedding *Calceolarias*, quite full; and the plants must be old ones, and higher than the last row of *Geraniums*. Water well through a rose, and the thing is done for this season.—D. BEATON.

THE SCOTCH WHITE CLUSTER GRAPE.—This was distributed by the Horticultural Society some years since; it is a robust grower and very hardy, with large leaves, but slightly lobed; a most abundant bearer, and rather earlier than the Muscadine; its berries are much crowded in the bunches, and require severe thinning. It is an old Dutch variety; I have received it from Holland under the name of “Vroege Vanderlaan,” and “Vanderlaan Précoce.”—T. RIVERS.

THE APPLE.—Apples have been believed by some to have been introduced into Italy from Media, and that the Falisci, or inhabitants of Montefiascone, were the first to plant them in rows. But this must apply to some particular variety, not to the species, which we have already stated to be indigenous, but very early cultivated. Pliny enumerates twenty-three varieties, which appear still more difficult to identify with ours than the pears. Among the few that modern authors have recognized, the Appiani of the Romans are supposed to be the Appie or Appiole of modern Italians, the Appia pyriformis to be the Appiolona lunga, the Syriaca ruberrima to be the red Calvetto, &c. In more modern Tuscany, Micheli, in his above-mentioned manuscript, describes fifty-six sorts under the Medici princes, fifty-two of which are figured by Costello.—*Journal of the Hort. Society.*

EDITORS' TABLE

Mower—first premium	.	.	.	.	.	\$50, Manny's Combined.
" second premium	.	.	.	.	.	\$30, Ohio Mower.
Reaper—first "	.	.	.	.	.	\$50, Atkin's.
" second "	.	.	.	.	.	\$30, Ohio Harvester.
Combined—first "	.	.	.	.	.	\$50, Manny.
" second "	.	.	.	.	.	\$30, Iron Harvester.

The manuscript of the work was completed by the author just before his death; his family not wishing to publish it, the manuscript was purchased by the Queen of England, and printed by her orders. It is local in its descriptions of the natural history of Dee Side and Braemar, and, on looking it through, we are not surprised the author's family declined the publication, as it could scarcely be very popular, however minute and accurate its descriptions. The illustrations are not remarkable.

THE second part of Van Houtte's *Flore des Serres* contains, among other things, figures of *Achimenes amabilis* (a handsome plant resembling *Gloxinia tubiflora*), the Fancy Pelargonium called *Avenir*, a new Begonia called *Rosacea*, *Hæmanthus cinnabarinus* (from the Gold Coast), a deep crimson Fuchsia with white petals marbled with purple, and oddly enough called *Galanthiflora*. There is also a plate of the handsome French Camellia-flowered Balsams, and some miscellaneous matter to which we shall probably advert hereafter. These "Balsams" form the most beautiful plate lately published by Van Houtte; they are simply very double "lady-slippers," and will probably become the vogue. We saw them in perfection, lately, at one of our neighbors, the beautiful country-seat of George Roberts Smith, Esq., where his gardener (Alexander Newell) has produced the most beautiful kinds, from French seeds. It is said that the seeds will require to be imported annually, as the plants from seeds in this country degenerate. We cannot, however, vouch for this.

WE observe that a new monthly botanical work, to be called "*Filices Exoticæ, or Figures and Descriptions of Exotic Ferns*, particularly of such as are most deserving of Cultivation," is to appear from the practised pen of Sir William Hooker. Each part is to contain eight colored plates, executed by Mr. Fitch. Such a publication is wanted, and will contribute to the settlement of the names of Ferns, which pseudo-scientific writers have contrived to reduce to deplorable confusion. The work will be published by Lovell Reeve.

The same publisher announces the preparation, by Professor Harvey, of a work to appear in monthly parts, each containing six colored plates and as many pages of letter-press, under the name of *Phycologia Australasica; or, Figures and Descriptions of Australian Sea-weeds*. Publication to commence as soon as a sufficient number of subscribers' names to justify the necessary outlay, shall have been received.

ILLUSTRATIONS OF BOOKS are sometimes produced in a way indicating that author and artist have not worked in unison; in fact, that the artist has never read the author. A striking example is furnished in Godfrey's *Grinnell Exploring Expedition*, where the author relates that Dr. Kane became so ill with cold that Godfrey had to carry him a long distance on his shoulders, Kane all the time declaring, in his hallucination, that he saw a bear about to attack him. Godfrey takes much pains to assure his commander, and the reader, also, that there was *no bear*; but lo! the engraver, following the illustrator, inserts a bear running alongside! and turning up a very threatening snout. In this way, the public lose their confidence in illustrations, which thus become worthless. We could name a manufactory of wood blocks, where, by changing the *borders* of pictures, one battle scene is made to do duty a dozen times in the same "history," and, after illustrating the American Revolution, appears in the life of Napoleon! There is a class of books of this kind foisted on unsuspecting people, the history of which it will do somebody a service to write. They remind one of the colloquy between the showman and the children: "Look to the right, my little dears, and you'll see the lions attacking *of* the dogs. Look to the left, and you'll see the dogs attacking *of* the lions." "If you please, sir, which is the lions, and which is the dogs?" "Whichever you please, my pretty dears; you've paid your money, and you've a right to choose." This would scarcely answer for botany.

THE CALABASH-TREE.—Among the products of Cuba, alluded to in our hasty notes on that island, is the long-leaved Calabash-tree, *Crescentia cujete*. This species attains the ordinary height of a pear-tree, being twenty to twenty-five feet in height. As it has been found at Key West, and is therefore American, we abridge a description of it from Nuttall: In the countries where it is indigenous, the wood is employed for saddle-trees, stools, chairs, and other articles of furniture; the fruit varies in form and size from ovoid to round; it is covered with a thin, even, smooth skin, of a greenish-yellow, and under this is a hard and ligneous shell, which contains a soft, yellowish pulp, of an acrid and disagreeable taste, which is employed as a remedy for dropsy, diarrhœa, and inflammations of the chest. Applied externally, it is deemed serviceable in bruises, burns, and headaches. The Indians and cattle sometimes eat the fallen fruit, and the former employ it, when hollowed out, for rattle boxes. This shell of the fruit is used for various kinds of domestic vessels, such as goblets, coffee cups, tobacco boxes, dram bottles, &c., and it is said, even for kettles to boil water in, it being so thin, hard, and close-grained, as to stand the fire several successive times before it is destroyed. We are indebted to D. J. N. Gomez for noble specimens.

The leaves grow out in clusters of nine or ten together. The flowers come out on the trunk and branches, are of a dull greenish-yellow, about one and a half inch long, solitary, and of a disagreeable smell. The dried shells, cut in half for domestic purposes, are sold by the blacks in the Cuba market, and are quite a curiosity.

DON'T BE IN A HURRY.—A correspondent at Clinton, N. Y., says: "I see the *Abies Menziesii* is marked tender about New York. I have wintered a specimen two feet high, which has survived two seasons. The first winter, I gave it a thin blanket of hemlock boughs, and it came out well in spring, nipped only a little in the extremities of its branches. The second winter, I gave it no protection, and, in the spring it looked sadly, every leaf as red as sole leather. I dug it up, and toted it off to the lawn, intending soon to burn it on a brush heap, and set out in its place a fresh and beautiful hemlock. The day after, I came to look after my hemlock, and caught up the apparently dead, 'far-fetched, and dear bought' spruce, and started for the brush heap. But as the buds looked plump, I turned aside, and set the tree against a fence, and threw two or three shovelfuls of earth over the roots, to see whether the doomed thing would live. A few days since, I noticed that it was pushing out fresh leaves on every branch, *determined* to live and to be hardy." This will form a suggestion for the consideration of many. We lately brought home a fine *Quercus Lucombiana*, which a neighbor had pulled up "because it was dead," and have not a better tree. It retains its dead leaves all winter, and comes out late in the spring. Novices destroy many valuable trees from not knowing their habits.

The same correspondent says: "*Salisburia adiantifolia* is with me killed to within three feet of the ground; *Kölreuteria paniculata*, worse still; *Magnolia acuminata*, top killed, while the deciduous Cypress has wintered better than ever! and so has the Japan sophora. The English Maple is considerably injured." Alack! for half-hardy things! Very many may as well be abandoned as creating more discomfort than pleasure.

Gossip.—A gentleman in Connecticut has succeeded in artificially breeding trout in his cellar, through which he has turned a stream of water.—A few years ago, it was difficult to procure salmon in Paris for less than from two to four shillings (English money) per pound. Now, in consequence of their fast increase through artificial breeding, they have been sold as low, this season, as sixpence per pound. Is there any reason why the people of this country should not "go and do likewise?"—Dr. Carl Müller has commenced a continuation of the *Annales Botanices Systematicæ* of Walpers, of which Vol. IV., Part 1, is before us, extending from Ranunculaceæ to Nymphæacæ.—In Xenophon's minor works, will be found some excellent remarks on planting, horticulture, &c., that may still be studied with advantage. In one of his treatises, occurs the following: "'Would you merely heap up the earth around the plant, or tread it down hard?' 'I would tread it down,' said I, 'assuredly; for if it were not trodden down, I am well aware that the untrodden earth, if wetted by rain, would be turned into mud, and, if scorched by the sun, would become dry to the very bottom; so that there would be danger lest the roots of the plant, under a prevalence of wet weather, should be rotted by damp, or should be scorched up in hot weather from the roots being heated through the dryness or porousness of the earth.'"—The lesson to be learned from diseases which are dependent upon parasites, whether animal or vegetable, is most important. It is simply that, in our treatment of the maladies of vegetables as well as those which affect our own frame, we should not trust to chance or mere empiricism, but, as a first step, we should study as intimately as possible the nature and habits of the organisms which produce the disease. And to this end, science must be the helpmate of practice, to enable the cultivator to observe and distinguish accurately. A knowledge of the cause of disease is a step more than halfway towards its cure, and thus the student in the obscurest branches of science, against which utilitarian objections may most readily be urged, may prove a real benefactor to his fellow-men.—Calvert Vaux, in his book on *Villas and Cottages*, remarks truly, that "the constant recurrence of about the same requirements will, of course, lead to much similarity of plan, particularly in small buildings; but the monotony that this would occasion, may be agreeably relieved by variety

in color, both in the interior and exterior. Different patterns of paper will make two rooms of the same proportions no longer look alike, and the same result will be obtained on the exterior, by adopting different tints for the walls and the wood-work."—The use of a philosophical discovery is often slow to get some of its most useful applications. The invention of a double-walled pitcher, is an instance: Ice put into a pitcher of this kind with water, remains ice all the hottest day, to the great convenience of the family. We made double walls for ice-houses, and then brought the ice up, for fifty years, to be melted in an hour. Every one who has used the new ice-pitcher, will commend it to his neighbors.—We are pleased to see that a marl Company has been formed for distributing the green-sand marl of New Jersey. The Company sell it at seven cents the bushel, which, when dry, weighs eighty pounds, and is said to contain five per cent. of potash, or nearly as much as there is in a bushel of unleached wood ashes. There can be no doubt that it contains much that is necessary to our commonly cultivated plants. Charles Sears, Riceville, N. J., is President of the Company, and T. Townsend, 82 Nassau Street, N. Y., Treasurer. Having witnessed the beneficial effects of marl on grass lands many years since, we are prepared to believe the use of it in gardens and greenhouses may be highly important.—Our readers must have been struck with the name of the Director of the "Acclimation Society" at Algeria, mentioned in our last "Gossip." They are ascertaining which plants can be acclimated, and the Director is Monsieur *Hardy*.—A book, by M. Field, on *Rural Architecture*, just published in New York, by Miller & Company, asserts that the greatest lovers of the country, are those who live in cities! This will be news to most.—A gardener, the other day, made a calculation that he could find work in the village gardens where he resides, but about ninety days in a year. The business begins in April or May, and ends in August or September; take away from one hundred and fifty days the rainy and the Sundays, and it will be discovered he is nearly correct. We have thus about eight months of *winter*, as he would say, at the North. It is bad enough, we admit, and we shall never scold very hard at those who seek a milder climate after Christmas.—The first question two acquaintances or friends put to each other is: "How do you do?" proving that health is uppermost in our appreciation of happiness. The second expression is: "Fine weather to-day!" proving, also, that after health, the greatest blessing is the enjoyment of a fine day. The weather to us, in fact, is somewhat the same as the water to the fish. It is a less dense medium, but we move and swim in its air as fish do in water, and it is a great consideration whether that medium be dirty or clear, cold or warm, depressing or exhilarating; *therefore*, it is wise to leave the South in the warmest weather, and flee to the mountains, and also to leave the North in the coldest, and flee to Florida or Cuba.—Sir William Hooker writes to a valued American correspondent: "This week I have received a fine collection of museum objects from Java, and another from the Falkland Islands. Among the latter, a splendid specimen of the "Balsam Bag" (*Bolax glebaria*), two feet high and ten feet in circumference—a compact hemisphere, this *one specimen* weighing four cwt." Do any of our readers know more about this production?—Upon the coast of Provence, there is a portion of the Mediterranean called *La Prairie*, or the Meadowy Sea, the bottom being covered with plants. Such plants, it is supposed, were at the bottom of the Red Sea when a green field was opened for the Israelites to pass over.—In the expression of David, "Sharp arrows of the mighty, with coals of Juniper," commentators have endeavored to show that Juniper not only abounds in a penetrating oil, but that the coals of the wood will keep a glowing fire for the space of a year. "For want and famine," says Job, "they were solitary; they cut up mal-lows by the bushes, and juniper roots for meat." These terms apply, no doubt, to some other plant than our juniper.—An old treatise on "Hawking and Falconry," gives receipts for curing the diseases of the birds. They were purged with a mouse and boiled chicken; they used, also, the ink of cuttle fishes, with betony, wine, and honey, infusions of rhubarb,

agarie, &c. In short, they had quite a hawk pharmacopœia, wrapping them up in blankets, using fomentations, steam and vapor baths, and giving nettle seeds and butter! A green lizard cut up, or a tortoise out of the shell, cured them when in consumption! Queer old practitioners were the hawk doctors.

CLUSIA.—One of the plants noticed in the trip to Cuba as the emblem of ingratitude, is the Clusia. As we remarked elsewhere, the botany of the Island is a *terra incognita* to Northern men, and their knowledge is put to a severe test during a short residence like our own; having lost the leaves, and, indeed, our whole collection of plants, we referred to a correspondent in Havana for confirmation of the species. The search for the name of the plant has revealed, from an obscure corner, the history of the individual after whom the Clusia is named, and it is as thoroughly a melancholy story as well can be recorded of a scientific man.

"The Clusia was so called, after the celebrated Charles de l'Écluse, born at Artois, in 1526, and died in 1609. He was one of the most excellent botanists who ever lived, and author of many works whose value will only cease with the world. But he is not more known for his mental excellence than for his personal calamities. In his early youth, he undertook to travel through Portugal, Spain, England, Hungary, and other countries, in pursuit of plants—no easy task in those days. By excessive fatigue, he contracted, so soon as his twenty-fourth year, a dropsical complaint, of which he was afterwards cured with chicory, by the celebrated Rondelet. At the age of thirty-nine, he broke his right arm, during one of his botanical rambles; and a short time afterwards, his right thigh. When fifty-five, he dislocated his left ankle, while at Vienna; and eight years after, his right hip. Having been unskilfully treated, he was ever after obliged to walk with crutches. The consequent deprivation of his natural exercise brought on other diseases, among not the least distressing of which were calculus and hernia. After having been the Director of the Imperial Garden of Vienna for fourteen years, he returned to his native country (Flanders). He was named Professor of Botany at Leyden, where he gave botanical lectures for sixteen years, when he died, overwhelmed by the multitude of his bodily infirmities, but retaining his faculties unimpaired to the last."—*Loudon's Encyclopædia of Plants*, p. 866.

M. BONPLAND.—According to late news from Corrientes, M. Aimé Bonpland has, in spite of his very advanced age, set out on a new botanical excursion to the State of Paraguay, the results of which are to benefit the collections of the National Museum at Corrientes, founded by M. Bonpland himself. The length of life of the two friends, Humboldt and Bonpland, is extraordinary.

THUJOPSIS DOLABRATA, is the name of a new evergreen with the foliage of a deep green on one side, and silver-white on the other, possessing ornamental qualities that make it desirable. It is a tall tree, with a thick trunk, and a hard, red wood, in request in its native country (Japan), for building purposes. Its head is pyramidal, and formed of spreading, or even drooping branches. Its hardiness has not yet been established.

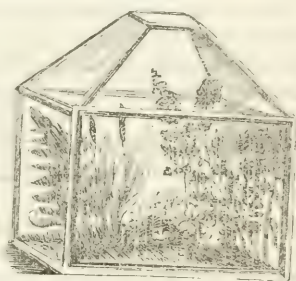
ROSES.—The new and favorite roses of England, and France, and Belgium, all bloomed magnificently at Rosedale (Mr. Buist's garden, near Philadelphia), the present season, viz: Bæchus, Lord Raglan, Emperor Napoleon, General Jacqueminot, Salet, &c., and will soon be ready for dispersion among amateurs of this most charming of flowers.

THE OSAGE ORANGE.—As a tree for trimming into varied shapes, we possess nothing more patient of the shears than the Maclura. It grows rapidly, and will take any form required.

We have noticed a tree near Baltimore, in "Visits to Country Places" (page 351), which, by topping, had spread in the most extraordinary manner; and we have a plant of considerable size trimmed into a large column, which looks at a short distance like a huge box-tree; its only disadvantage is its deciduous character, and late leafing.

WISTARIA VIOLACEA.—This new *Wistaria* bloomed, for the first time, in this country the present season (June 28), on Mr. Buist's piazza. Mr. B. obtained it in France, a few years ago. It is later in blooming than the other species; the racemes more dense, the flowers prettily variegated, having a shade of yellow, violet, and purple blush. Withal, it is quite fragrant, and a great acquisition.

A PARLOR FERNERY may resemble the accompanying cut. The matter of chief importance is the selection of ferns, the smaller suiting better than those of large growth. The hardier sorts, cultivated in pots, may be set out, under shelter, in summer, on a layer of sifted coal-ashes or tan. The drip may be obtained by suspending over the plant a vessel of water, out of which a worsted thread should hang. This supplies a succession of water-drops, which should fall on a stone beside the plant, and above the pot. The ordinary soil for ferns in pots, is a mixture of equal parts of soft peat, fine sand, finely broken potsherds, and charcoal; this may be used in the parlor fernery, which will prove a never failing source of amusement, if attended to and kept suitably moist, without exposure to the sun.



A POWERFUL PUMPING ENGINE.—One of the most ingenious and powerful machines for submarine operations is the Gwynne Pumping Engine, capable, when driven to its full capacity, of discharging the prodigious quantity of one thousand barrels of water per minute. By means of this wonderful machine, a sunken vessel, even in eighty feet of water, can be pumped out, filled with air, and thus raised without any injury. It is not necessary to attempt to make the sunken vessel perfectly tight; for leaks, admitting one thousand gallons per minute, are of slight consequence where the engine will discharge as many barrels in the same time. In case, however, of vessels being considerably shattered and broken, the application, in addition, of pneumatic and hydrostatic lifting power, will effect the object desired.

EVERGREENS.—**A NEW ENEMY!**—A valued correspondent writes, on the 28th of June: "Do you know that, with consternation, this morning I discovered that my large Norway firs (seventeen years old) are curiously affected? They have only grown, in patches and spots, some of the terminal shoots, but the inner ones not started; the old foliage looks dirty and diseased, and, on examination, I find them more or less injured by red spider! My theory is, that what with cold winter, and a cold, rainy spring, and the great shade to the ground from the large masses of lower limbs laying on it, the ground and roots have not got warm enough, even yet, to start anything except the extreme tips, which are full of younger life and exuberance. In the mean time, this growth having stopped, what is to become of the rest? Will it grow out of season later, or hold over for another year?"

IMPROVEMENT OF THE PORTABLE STEAM ENGINE.—The great improvement added to this machine consists of the attached endless railway, which is composed of a series of flat

boards, six in number, plated with iron on both sides of each wheel, equal in length to the radius of the wheel, and from ten to sixteen inches in width, loosely attached to the felloe of the wheel in such a manner that they are carried round it as it revolves. Each in succession is laid flat on the ground in front of the wheel, and lifted again, in its rear, as soon as passed over. On the surface of the boards next the periphery of the wheel, an iron rail and boards are fixed on which the wheel runs, thus corresponding to the sleepers of an ordinary railway, so that the wheels carry their own rails and sleepers with them, laying down a literally endless railway whenever they are set in motion. This is now adapted to the common portable engines, thus making them locomotives capable of going any distance on roads, instead of being dragged. It will thus travel over soft and marshy ground where no roads exist, up and down hill, and over rough and uneven ground. This is the English invention of Mr. Boydel, and should be adopted among us.

THE ISABELLA GRAY ROSE.—The English public is greatly excited by the appearance of the Isabella Gray Rose. It is a noble yellow, and the only yellow everblooming rose we have; a noisette climber, of about the hardness of the Cloth of Gold, from which it was raised from seed by Andrew Gray, of Charleston, S. C., who named it. The first public notice of it appeared in the *Horticulturist* three or four years ago, having been then exhibited before the Pennsylvania Horticultural Society by James Ritchie. It is extremely valuable, and yet scarce, orders from Europe having been numerous.

POETRY!—We do not often publish *poetry*, but the following (which comes to us through that best of periodicals, the *Living Age*, credited to the *Boston Traveller*) appears to us so rural, and, at the same time, so very full of *oddity* and fun, so out of the way in its *versification*, and, withal, so calculated, when read with the proper emphasis, to create more than a smile, that we deviate from our usual course, to give others a hearty laugh. It is to be hoped that "Cayenne Pepper" will continue, and apostrophize other great nuisances of rural life:—

TO A GINNY-FOUL

THAT COMES AND SQUAWKS UNDER HIS WINDER PERIODICALLY, AND MAKES HIM MAD EXCEEDINGLY.

You misshapen, speckled critter, you!
What a thunder 'ressquawking 'bout?
Does anything hurt you bad? Or do you squawk
That way in Ginny, where you come from,
And so squawks now from educational prugudence?
What a mischief do you pull your homely head
Out'n from under your wing and squawk for?
What's under your wing to make you squawk,
You speckled swine of a bird?
Somethink offensive, I reckon, elsewise
You'd keep it there, for it looks better hid.
What do you get on the fence and squawk for?
Do you see anythink alarmink, you white-gilled,
Speckle-feather, squawking fool?
How do you s'pose a feller can read or rite,
Or sleep, or live, you discordant, old, busted,
Brass, French horn, with all keys open,
And the mouth-piece cracked!
I wish I could pizen you, you everlastin', perpetual
squawking machine!

What're you thinking about?—home?—
You rascally epitome of a Ginny war-gong,
A Congo tun-tum and conch-shell,
And down-east village brass band!
Dry up! you speckled parody of a machine shop!
Do you think that's music, you outrageous vocal atro-
city!
You boiler maker's exacerbated echo!
You squawking abstract of Pandemonium,
Do you think a feller can afford to furnish boot-jacks,
And so forth, to chunk you with dally, dog you!
May-be you think its funny, you speckled pagan of
African extraction!
Is your squawking sass? or are you 'feard of me, say!
You brazen-throated, sheet-iron-lunged culmination
Of foul creation? Here's my blackin' brush at you!

K. N. PEPPER.

HICKORY.—The Indians (of Florida) hold in great esteem all kinds of sweet hickory-nuts. They crack the nuts, and beat them in mortars; then boil in water, and save the oil. But the most favorite dish the Indians have amongst them, is corn drink seasoned with hickory-nut oil. They pick out the kernels, beat them to a paste, and boil with Indian corn flour, which, being seasoned with a lixivium made of pea-straw ashes, gives it a consistence and taste something like cream or rich new milk, and is called by the traders hickory milk.—
Bartram MS.

LILEUM GIGANTEUM.—Have any of our correspondents this new and elegant flower? One is recorded in Norfolk (England), eleven feet in height, “having twenty flowers upon it”—the first leaf only thirteen inches from the soil; below this, the stem is ornamented with the leaves of four strong offsets. Some of the largest leaves, including the stalk, are thirty-two inches long, sixteen inches without the stalk, and as much across.

MR. G. C. THORBURN, of Newark, N. J., places us under obligations for a box full of pleasant novelties in the way of Dahlias that “challenge all Germantown” (they might easily do that, for the Dahlia has gone a little out of fashion hereaway), numerous Chrysanthemums, Petunias, Fuchsias, and Pelargoniums, the *Salvia lillieana*, and the *Cuphea eminens*—all of which we shall cherish, and report upon in due time. The manner in which Mr. Thorburn's plants arrive, is always satisfactory; they look as if they had been packed by a lady's hand, so neatly are they potted and labelled; and, withal, so safely packed, that those *jollers*—the express-men—seem to have no power over the prisoners.

A PROPAGATING POT, which may be new to some, was shown lately by Mr. Deans, of Scotland. It is of ordinary form, with a large hole in the bottom; over the latter fits an inverted earthenware funnel, perforated all round to the top, on which is a knob which stands above the material with which the pot is filled. This affords complete drainage, and pulling up the funnel by the knob brings the cuttings and soil with it unbroken, thus affording means of examining the state of the roots as often as it may be thought desirable to do so. This pot has been used, we believe, with success in Scotland.

THE NEW GRAPES, Golden Hamburg and Bowood Muscat (for the grapery), which we have frequently noticed, are advertised, in this number, as for sale by Mr. Buist. They have, we think, a justly high reputation, and one, at least, of each should be in every large grapery.

THE ADVERTISEMENT OF MR. MEEHAN'S seeds, also deserves attention.

THE EMBLEM OF INGRATITUDE.—Since our notes, No. 3 on Cuba, were printed, we have received the following letter from Havana, confirming the facts connected with the curious plant described as embracing the Bishop's house and the Ceiba-trees. It will be read with interest:—

“HAVANA, June, 1857.

“JOHN JAY SMITH, Esq.—DEAR SIR: The plants which envelop the Ceiba, Palms, and, in fact, any tree which has the misfortune of coming in contact with it, are not a vine. The most common is the Jaquy, *Ficus Indica occidentalis*; the other is the *Clusia rosea* et alba, called here Copey. Both are handsome trees. The seeds are deposited by birds, I suppose, on the bare rocks, or in the hollow of trees. There they germinate at first as humble parasites. Soon after, they send out a smooth, thin root, which lengthens sometimes as much as sixty or eighty yards, until it reaches the ground; there it takes root; another and another is soon after sent out, encircling the tree as with a small twine of a few lines diameter. They keep growing on in thickness until the unfortunate tree is smothered. Each of these filaments or twiny roots unite together, and form of itself magnificent trees, the heart of which is the mother tree which first lent it its support, and gave it food. The Jaquy is often seen forming trees of six or eight yards diameter at the bottom or lowest part. It is a most beautiful tree, and gives a delightful shade. The juice is used as glue, to catch birds. The wood has no application.

“The Copey, or *Clusia*, is not so large. Its habits are nearly the same. The roots or filaments that shoot downwards to the earth, as thin as they are, can bear the weight of three or four persons. Its large and beautiful flower, its singular shaped fruit, its thick and shiny

leaves, make it a very handsome tree. The juice is a gum resin (which it yields abundantly), at first white, but soon yellow. It may be used as glue for book-binding, as the insects never attack it.

"I now hand you a painting of the flower of the Carolina-tree, a *Pachira* of the Bombacaceæ family.

"Any information you may desire on the natural history or botany of Cuba, I shall be glad to transmit. I remain, respectfully, dear sir, your most obedient servant.

FRANCISCO A. SÁLVALLÉ."

SULPHUR AND MILDEW.—It seems to me, that the remarks on this subject, at page 335, should not pass without a word of qualification. With regard to the style of that communication, I would simply repeat the remarks of a celebrated writer, that "every man should aim at eminence, not by pulling down others, but by raising up himself, and enjoy the pleasure of his own fancied superiority, without interrupting others in the same felicity."

In the communication referred to, it is asserted that the curing of mildew with sulphur was first published in the *American Flower Garden Directory*, in the year 1832. That it was known in Europe previous to that date, I can well remember, and in Loudon's *Encyclopedia of Gardening* (published in 1822), it is noted as a quotation from a previous work; so that the "savans of Europe" have not the discovery to make now. The recent failures of the grape crop in some parts of the world, have been the means of directing attention more particularly to the subject, and, consequently, these receipts are being published for the benefit of those whom it may concern.

I claim to having some experience in grape culture, and I have found no more effectual method of applying sulphur than dusting it over the leaves and fruit when attacked by mildew in cloudy weather, unless dusting it on the flue, and applying a gentle heat, which of course is not available where there is no heater. This method of dusting, your correspondent terms "filthy in the extreme." A slight syringing washes it off. There is no filthiness left, which is more than can be said of the lime and sulphur mixture. Even the "amber colored" water leaves very *filthy* marks on painted wood-work; on this account, I discontinued its use for the cleaner method of dusting.

As to the *American way*, viz: placing a "few pounds of sulphur on several pieces of boards, and stirring it once a week," you may not have any mildew, if the precautions mentioned are attended to; that is, "unless you give heavy waterings, and allow cold currents of air." As it is generally thought that sudden checks to growth (such as would be occasioned by heavy waterings) and currents of cold air, are the predisposing causes of mildew, it may be supposed that, in their absence, no mildew will appear; consequently, the boards without the sulphur would be equally efficacious.

The past month has, with us, been wet, with much cloudy weather. In a cold graperly, our usual method of dusting sulphur on the floor, has not been sufficient to ward off the mildew. It requires heat to liberate the fumes of sulphur; hence its inefficiency during sunless, cool weather.

"In London," they sometimes syringe with a sulphur mixture, to kill red spider (not to eradicate mildew), which is troublesome when much artificial heat is required. But all filthiness is soon removed by clean water, and they do not find any injurious effects from its use in this way.

My object in writing this was, in the first place, to correct the misstatement of the discovery of curing mildew with sulphur; secondly, to give my opinion upon the merits of dusting it over the plants; thirdly, to caution the unwary how they bring the sulphur and lime amber-colored water in contact with paint; and lastly, to show that the efficiency of sulphur depends upon heat.

Yours, very respectfully, A GRAPE CULTIVATOR.

TO MAKE SKELETON LEAVES.—In your last "Gossip," mention is made of a new process of painting on anatomized leaves. This is very beautiful work. For the benefit of your lady readers, I give the following, which I take from my note-book, where it was inserted some years ago: "Fill an earthen pot with rain-water; then put in leaves or seed-vessels, selected in a state sufficiently matured for the woody fibre to be completely formed, so as not to be flaccid; at the same time, it should not be too old and hardened. Let them remain in the water, without changing, until they become pulpy, and the outer skin and fleshy matter will brush off (with great care) with a common painter's brush. Should any part of the skin still remain firmly fixed, put them again into the water, and wait patiently. When perfectly clean, bleach them in chloride of lime. Magnolia leaves require about six weeks; pear, tulip, and mulberry-tree leaves, about three; ivy (very pretty veins) requires three months' maceration; orange and lemon leaves, six months." Yours, &c., S.

CATALOGUES, ETC., RECEIVED.—Premiums and Regulations for the Eighth Annual Fair of the Ohio State Board of Agriculture, to be held at Cincinnati the 15th, 16th, 17th, and 18th days of September, 1857. Competition open to other States.

Regulations and List of Premiums of the Sixth Annual Indiana State Fair, 1857, to be held at Indianapolis, October 5th to 10th, inclusive. Officers: *President*—Alexander C. Stevenson, Putnam County. *Vice-Presidents*—William H. Bennett, Union County; I. D. G. Nelson, Allen County. *Secretary*—Ignatius Brown, Indianapolis. *Treasurer*—Salmon A. Buell, Indianapolis. *General Superintendent*—Calvin Fletcher, Jr., Marion County.

Prospectus of the Agricultural College of the State of Michigan. Lansing, 1857. A highly important movement.

Frank G. Johnson's Self-Regulating Wind-Mill, with wood cuts explanatory. N. Davidson, 9 Spruce St., New York.

Addresses delivered at the Dedication of the Clinton (N. Y.) Cemetery, with a copy of the Act of Incorporation. Utica, 1857. This is an interesting pamphlet that all interested in cemeteries should peruse. The address of Professor North is a scholarly and finished oration.

Biographical Memoir of the late François André Michaux. By Elias Durand. From the *Transactions of the American Philosophical Society*, and printed separately in a brochure, 1857. This memoir possesses great interest, but it is imperfect in many points, and its style is that of a translation, the amiable author being of foreign birth. We hope to present its facts in these columns at no distant day; meantime, the memoir of the elder Michaux will be found in our columns this month, paving the way for the life of the son hereafter.

Notice of some Remarks by the late Mr. Hugh Miller, author of the "Testimony of the Rocks," &c. &c. By W. Parker Foulke, Philadelphia, 1857.

ANSWERS TO CORRESPONDENTS.—(T. T. S.). Cornus is derived from *Cornu*, a horn, from the wood being thought to be as hard and durable as horn. The *Cornus sanguinea* grows in the shade and drip of trees, and is very ornamental in winter, from the red color of its bark, thus forming a valuable plant for thickening shrubberies and strips of plantation that have become naked below. The contrast of color with evergreens has a fine effect.

(A CORRESPONDENT). Capillaire is so called, from being prepared from a plant, *Adiantum Capillus veneris*, which is considered to be undoubtedly pectoral and slightly astringent, though its decoction, if strong, is believed to be a certain emetic. The stem of many species of the ferns to which this is allied, is both bitter and astringent, and is employed in various diseases; one species is used for tea, another is eaten by natives of different countries. The

Tasmanian fern-root is eaten voraciously by pigs; the aborigines roast it in the ashes, peel off its black skin with their teeth, and eat it with their roasted kangaroos in the same manner as Europeans eat bread. The root of the Tara fern possesses much nutritive matter. Many of the ferns are fragrant; one smells of myrrh, and another of benzoin, and a third of roast beef. You will find much pleasure in studying these plants.

June 11.

Wishing to add (in the fall) to my small collection some perfectly hardy, profuse flowering plants that will thrive in a very severe climate, I have made a selection, and would like the sanction of an authority upon which I have long relied.

Respectfully yours,

A SUBSCRIBER.

Which of the junipers unites the greatest beauty and tenacity, or is there any other evergreen that does not attain a very large size, possessing these qualities in an equal degree?

Is the European Larch hardy? *Aralia japonica*, only mentioned in Buist's *Catalogue*.

Buddleia Lindleyana; *Chionanthus virginica*; *Clethra alnifolia*; *Crataegus punctata* pleno; *Fagus purpurea glabra*; *Robinia Bessoniana*; *Viburnum lantanoides*; *Virgilia lutea*; *Stuartia virginica*.

[All are quite hardy, except *Buddleia Lindleyana*, which generally gets killed to the ground in Philadelphia. The *Aralia* alluded to, is probably *A. spinosa*, and quite hardy. Both species are spiny. The Tree-Box and Red Cedar, are both small growing evergreens, as hardy as the Juniper, and, we think, quite as beautiful.—Ed.]

NOTE FROM A SOUTH CAROLINA LADY.—“I enjoy the *Horticulturist*, but am stupid to learn how to treat my pear-trees. The most flourishing are those I trimmed most carefully, and have not even a bud, and those I let alone bloom profusely, and then *grove*, instead of producing fruit.”

Try the experiment of root pruning, or occasional removals.

HAVE PLANTS THE POWER TO CREATE?—(J. T. Plummer). Our correspondent is evidently getting angry, without reason. Had we intended any discourtesy, we could have shown it better by withholding the publication of his letter altogether. What we wished to impress on the mind of our correspondent was, that there is really nothing known about the subject of which he inquires. Observation has shown that there are, occasionally, certain substances found in plants, and of which no trace of the elements they are composed of, can be found in the soil or atmosphere surrounding it. Lindley, and other physiologists, “infer” (that is, they consider it probable) that, by some vital process which they do not profess to understand, the plant has the power of creating that substance—not “out of nothing,” absolutely, but out of nothing that we know of. What is wanted further, is not more opinions, but more facts. The question is, how are these substances formed? And we respectfully submit to our correspondent whether he has offered anything towards an elucidation of it? In our former comments, we had not so much our correspondent's communication in view as the general fact that we have, most of us, too great a tendency to criticize the experience of others, and too little inclination to observe and experiment for ourselves. We trust our correspondent will pursue the subject further; our columns shall always be open to any discoveries he may make in relation to it.

EXTENSIVE STRAWBERRY CULTIVATION.—The *Baltimore American Farmer* gives the following account of strawberry cultivation near Annapolis, Maryland, exceeding anything we now recollect: “Our Anne Arundel County friends can claim a pre-eminence in fruit culture, which, both as to quality and quantity, entitles them to honorable distinction. It is not many years since their system of cultivation was introduced, but we find now, within a neighborhood of a few square miles (as nearly as we could ascertain), some six hundred acres

of land planted in strawberries, and producing scarcely less than *twenty thousand bushels*. A portion of the ground is not in bearing, being newly planted this spring. During the height of the picking season (which lasts some two to three weeks), about *twelve hundred* hands are constantly picking. About forty two-horse wagons are constantly running to Baltimore and the Philadelphia Steamboat Landing, making two loads each, or eighty loads a day, and taking away, daily, fifty thousand quart boxes of the berries, or about fifteen hundred bushels.

"Of this large business, more than one-half is done by four persons: Mr. Rezen Hammond, has about one hundred acres in bearing; Mr. Crisp, about eighty acres; Mr. Joseph Bryan, about eighty; Mr. William Linthicum, about fifty acres—making more than three hundred. We found, both at Mr. Hammond's and Mr. Bryan's, some two hundred hands picking. Mr. Richard Cromwell, and others, have crops of twenty-five or thirty acres, their cultivation being more divided between this and other crops.

"The method of management is, to plant the runners in spring, as soon as the ground is in working order, on ridges thrown up at a distance of four feet, and about eighteen inches apart on the ridge. They are kept well worked till about August, by which time the runners are taking possession of the ridge. They come into full bearing the following season, and continue for one or two seasons longer, according to circumstances; usually they are left in bearing about three seasons. Sometimes the clover and other grasses take possession of the ground to such an extent, that it is expedient to return to a cleansing crop after the second year. Mr. Hammond does not manure for his strawberries. The several cleansing crops are well matured in the hill with stable manure, street manure, &c. Manuring for the crop, he thinks, brings in the clovers too rapidly. The yield, per acre, is about an average of a thousand quarts, and the net price it is difficult to determine. The expenses attending the business are large. Mr. Hammond requires for getting his crop to market, six two-horse wagons, each team worth at least four hundred and fifty dollars, and six hundred chests, with boxes, worth three and a half dollars each. The picking costs a cent and a half a quart, where the pickers furnish their own provisions, and a cent a quart where the employer furnishes. The crop of this neighborhood goes mainly to the Philadelphia markets. The team is not to be charged exclusively to the strawberry crop, for they do all the work of the farm."

BLACK PRINCE STRAWBERRY.—This is the earliest strawberry in England, and if so in America, should be grown as a first crop.

THE SMYTHE STRAWBERRY.—Rumors of new, good, and better strawberries, will ever be the rule rather than the exception. It requires caution to handle the strawberry subject, there are so many interested in the introduction of new varieties. One friend writes to caution us how we commend this or that fruit, and reads us quite a lecture for telling our readers that we prefer the *Marilandica* to any we have heretofore known. He does not even intimate that he has seen this fruit; now we have, and, moreover, having no interest whatever in *anything* that is for sale, we can afford to be impartial, and express a free and honest opinion. But this is not the theme we set out upon.

A valued friend (William N. White, of Athens, Georgia) gives us a pleasant gossip about a new berry. He says: "Our two years' wonder in this fruit is what we call, provisionally, the Smythe Strawberry, a hermaphrodite variety which came into bearing last year. It was brought by a Georgian lady from England, three or four years since. She shared her plants with two friends, one of whom (Mrs. Smythe) alone succeeded in saving three plants, and a modest-sized bed came into fruit last season. It was so productive as well as excellent, that all who saw it were astonished; and I procured a few plants, last fall, to

send to Mr. C. Downing, in hopes the original name could be restored. The few English varieties we have hitherto tried (such as Bieton Pine, British Queen, Black Prince, &c.) have not succeeded. The Smythe was the earliest to ripen both seasons, and bore three weeks after all other varieties are gone, and, at the same time, in profusion. The foliage is dark-green; leaflets, large, on short footstalks; fruit-stems, stout and erect.

"Hovey's Seedling, and most of the old kinds, were, this season, more or less cut off by our spring frosts. The Smythe, Walker, Moyamensing, and Bishop's Orange, were little injured, and bore profusely.

"Not much fruit here, except apples, of which there is a moderate crop. Grapes are unusually promising."

COLUMBUS, GEO., July 5, 1857.

DEAR SIR: Allow me to answer an inquiry respecting Mr. Peabody's new strawberry. I visited Mr. P.'s grounds early in March. His bed of the new variety (about three acres) was literally covered with bloom. The runners had not been removed the previous year, so that the prospect for an immense crop was very flattering; some fruit had set, and it was then evident to me that it would prove a very fine variety; but this crop was entirely cut off by the very severe frost of 15th of March, and, through the remainder of that month and April, we had continuous frost—fatal to the strawberry blossom. I again saw the bed about 10th of June, when there was a tolerable crop of very fine fruit, and could have selected many trusses from the bed fully equal to those represented in the published plate, and have this day (July 4) brought home from Mr. P.'s a basket of fruit of large size and great beauty, notwithstanding a severe drought prevails, so that corn is suffering badly; and there is ample evidence that the bed would continue in bearing some time yet, if thoroughly watered.

As a market variety, it is a valuable acquisition, bearing transportation well to unprecedented long distances. It is early, of good size, remarkably fine flavor, hermaphrodite, and a great bearer. It is not a hautboys variety, however; it more resembles Burr's New Pine, but is more sugary.

It affords me pleasure to record this as no humbug, but, on the contrary, worthy of full confidence, at least, in the Southern States.

Respectfully yours, GEO. KIDD.

SARATOGA SPRINGS, June 30.

EDITOR HORTICULTURIST: I have just been reading the *Horticulturist*, and I see in it a query as to the Rhode Island Greening, in 1856, and I take the liberty of suggesting that the little care taken in grafting as to the stocks upon which the grafts are set, seems to me to have the effect of deteriorating many of the choice apples. I have had a sort of theory, for some time past, that the original stock affected the product of a graft; thus I think I can very easily tell whether a "gillyflower" was grown from a graft set in a sour or sweet apple stock. The one from the sour stock will be much more juicy (it seems to me) than one grown on a sweet stock. If there is such an effect, why may not continued grafting on to miscellaneous stocks in time deteriorate the apple until the descendant will be recognized as a new variety? I am no practical horticulturist, to experiment in this matter, but I think the experiment might be tried by some one who has an abundance of trees, and the result reported in a few years, very much to the edification of fruit growers. Say a gillyflower graft was set, this year, on a hard, sour apple stock, and a companion graft from the same tree, set on a sweet stock; next year, or as soon as grafts could be procured from these grafts, work them again on other branches of the same tree, and so keep grafting from the grafts to the same, and other trees of like nature, and others of various sorts. In the course of five or six years, the grafts would come into bearing, and the matter would be

tested. If my theory is right, some means will have to be taken to bring back the favorite apples to their original flavors, or we shall have to go back to seedlings. Hoping you will find a grain of wheat somewhere in this bushel of chaff,

I am yours, &c., as ever a friend to horticulture,

E. J. HULING.

Remarks.—The hardiness and vigor of fruit-trees are well known to be affected by the quality of the stock. It is possible, the properties of the fruit may also vary; but we consider that quite doubtful. Our friend's letter is, however, very suggestive. We cannot have too many experiments and observations. Divers into the deep sea of knowledge, we may bring something to the surface even more valuable than we anticipate.

LINNÆUS RHUBARB, OR MYATT'S LINNÆUS.—As rhubarb, or pie plant, is an article coming into general use, we have a word to say in favor of Myatt's Linnæus, because it appears not to be so generally known as it ought to be. It originated with Mr. Myatt, an extensive grower in England, and is deserving of particular notice and general cultivation.

We have tried many kinds; none, however, have proved equal to this. Colossal was a favorite for a long time (and still is a good sort), but the Linnæus is much superior to it or any other variety we have yet seen. It is free from the extreme acidity, coarse and stringy pulp, which by many is the great objection to Victoria, and other large sorts; it possesses a fine, aromatic flavor, requires much less sweetening, and forming, when cooked, a fine, uniform pulp; it needs no peeling or stripping to fit it for cooking. The plant is hardy, very vigorous, with long, heavy stalks, and more productive than any other variety we are acquainted with. It is the most valuable kind for family use, and should have a place in every private garden. For profitable marketing it is unsurpassed, and we observe dealers are growing it for this purpose. Plants are also offered for sale at moderate prices. I trust this healthful luxury will soon be abundant, and cheap enough that all can use it.

CHAS. DOWNING.

Calendar of Operations.

AUGUST.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

BUT little work has to be done this month, except to keep the weeds down by the plough or the hoe, and to tie up straggling branches. Train the bearing canes, for next year, from the top of one stake to the other, and cut off, with a knife, any lateral shoots from the axils of the leaves, below the tops of the stakes; those above may be left.

It is not best to stir the earth in the vineyard deep, as that might induce "rot" in the grapes. The season for this disease is over toward the latter end of this month, or when the grapes begin to color a little.

N. B.—This season is three weeks later than usual, and the mildew (which generally appears late in May, and up to the middle of June) has, within the last week, destroyed about half the bunches on the vines in most of our vineyards; but sufficient were left (if nothing destroys them) to yield a moderate crop. Cold, wet weather, succeeded by hot and sultry days, causes mildew.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Both science and practice agree in the advantages resulting from a thorough pulverization of soils. Agriculturists are beginning to recognize this fact in their endeavors to discover some more efficient implement than the plough, and *rotary diggers* (suggested, many years ago, by Mr. Hoskyns, in his *Chronicles of a Clay Farm*) are now being experimented with. In like manner, horticulturists are preferring the digging-fork to the spade in all operations for which the latter is applicable. For all ordinary digging

purposes, it is far superior to the spade, requiring less manual exertion; indeed, it can be operated so expeditiously, that it may economically supersede the hoe for destroying weeds, and cultivating between the rows of garden crops. I have used it for many years to stir and loosen the soil during summer, and have found great benefit from the practice. Weeds are kept under, and the soil left in a condition to absorb and contain rains—an important matter, as the sudden and heavy showers of summer run off by the surface, unless the soil is thus prepared.

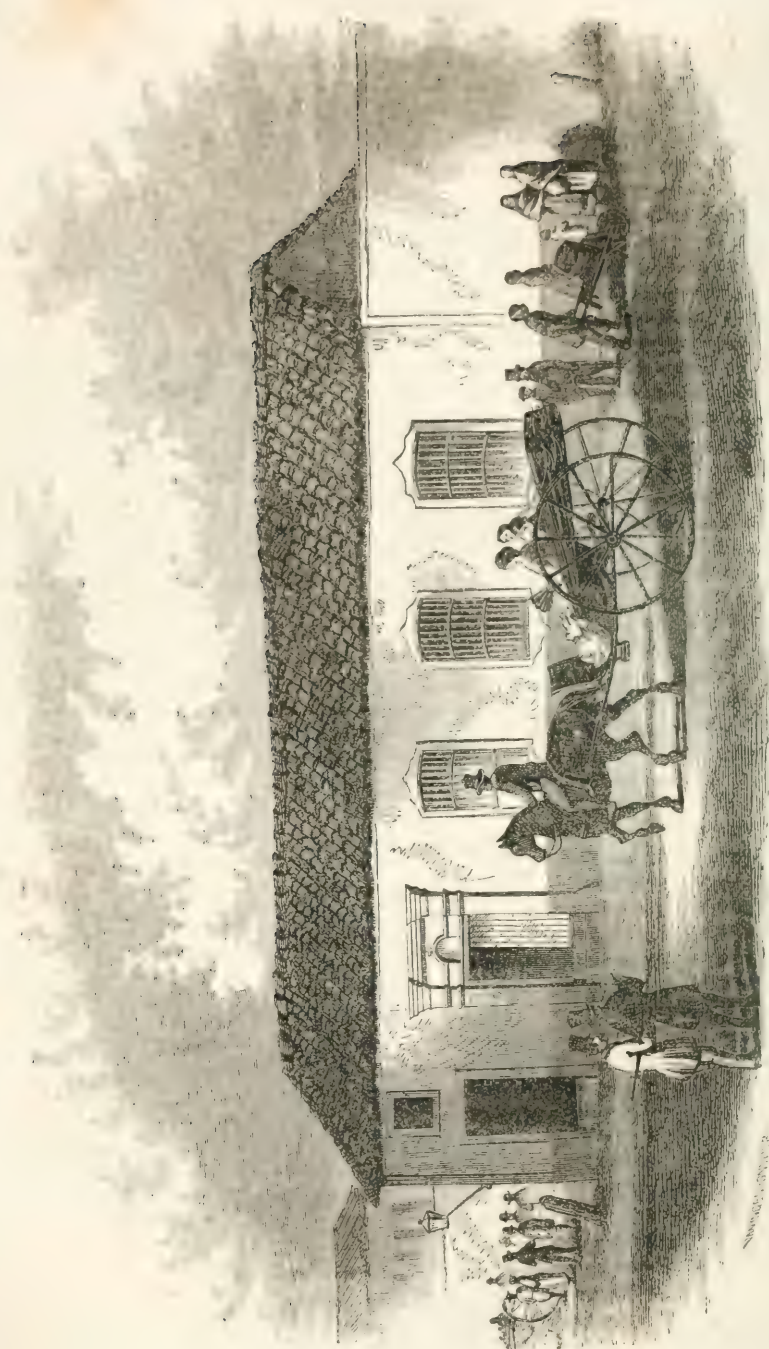
Now is a good time to sow seeds of beet, &c., to supply tender vegetables late in the fall. Peas may still be sown; winter spinach, and "sprouts" for use next spring, should be sown this month; lettuces and cabbages may now be attended to. Keep the growing crops clean, and stir occasionally the soil round them, to prevent the surface from "baking."

GRAPERY.—In cold houses, the fruit will be coloring. Badly colored grapes seem to be the rule; instead of being black, they are only red. Excessively rich borders, a high night temperature, badly constructed houses that will not admit of sufficient ventilation, and rigid adherence to injudicious systems of pruning, are, separately, sufficient causes of failure. What can be expected, then, when they are combined? Curvilinear houses are seldom constructed with sufficient top ventilation; in the endeavor to reduce the temperature, the atmosphere is saturated with moisture. The high temperature to which the branches are exposed, and the rich soil in which the roots are placed, tend to luxuriant growth. This growth, to accord with the system of pruning, must be constantly reduced. A degree of excitement is thus maintained, altogether at variance with natural growth, as is shown by deficient and immature crops. Cultivators should endeavor to acquaint themselves with the principles upon which their operations are founded; they would then be enabled to see through the *rationale* of their practice. Those who follow a routine are simply empirics, and, in gardening matters, their name is legion.

GREENHOUSE.—There is much interest attached to the raising of seedling plants; even when the seeds are saved at random, there is always a chance of producing something superior, but under careful hybridization, it is almost a certainty. Seeds of calceolarias, pansies, pelargoniums, and cinerarias, should be sown this month, so that the plants may be strong before winter. Small seeds, such as the first mentioned, require to be very slightly covered with soil; and, in order to obviate frequent waterings, which is likely to disturb them, cover the pot with a square of glass, and sprinkle a little sand over it, taking care to remove it before the young plants become etiolated. Roses for winter flowering should be lifted from the flower borders and potted; prune the branches, and place them where they will be shaded for a few weeks, until fresh roots are formed; then they may be fully exposed to sun. Fine flowering plants are procured in this way. Cuttings of roses, pelargoniums, verbenas, &c., will root freely at this season, out of doors, if sheltered somewhat from the sun. Success will be more certain, if planted in a frame having a northern exposure, where they can be protected by a sash, if found necessary, during heavy rains, &c.

WINDOW GARDENING.—PARLOR PLANTS.—The greatest difficulty in the management of plants in dwellings, is the absence of sufficient moisture in the atmosphere; uniformity of temperature may also be mentioned, and want of fresh air. Large foliaged plants are the least satisfactory. The cactus family are well adapted, so far as constitution, but they have little to recommend as floral ornaments. The epiphyllums and cereus sections, it is true, have magnificent flowers, but the greater proportion of mamillaria, opuntia, melocactus, are more curious in form than flower. Similar in habit and growth are the various aloes; *A. nigra*, *A. humilis*, *A. variegata*, and *A. retusa*, may be mentioned as well adapted for this mode of cultivation. *Sempervivums* and *mesembryanthemums* require similar treatment, and some of them have beautiful flowers. These are eminently cleanly plants, requiring little water, and never making a *mess* with falling leaves and buds. The cyclamen are most desirable, as also the oxalis; there are many beautiful species of both these tribes. The leaves should be kept clean, by syringing or sponging them individually. As a matter of cleanliness, saucers are set under the pots containing the plants; these should be emptied occasionally of water. Even plants that delight in moisture will not thrive, if it stagnates about their roots.





MRS. ALMY'S HOTEL, HAVANA, WHERE DR. KANE EXPIRED.

A Trip to Cuba and the Southern States, No. 4.

"Another Flora here, of bolder hues
And richer sweets."



CONTINUING our notes as they present themselves for extract, the reader will find them to partake of the rambling character of our visit, during which, every opportunity which health permitted, was employed in examining the novelties presented in every direction. We could but think that Europe has become somewhat stale to travellers who have frequently seen it. Like a dutiful son, the American's first visits have been paid to the ancestral roofs; that accomplished, and all which could be taught him there having been scanned, he may now turn his wings to another point of the compass, and converse with the land of the sun, so long in the exclusive possession of the unappreciative Spaniard.

Mrs. Almy's Hotel (where Dr. Kane expired) forms one of the illustrations of this number. The windows are grated with iron, and having no glass whatever, and only a curtain, they are protected from the entrance of robbers in this manner. Nearly all the houses are thus secured, and the rooms may be left without fastening. Being mostly of one story, air is thus freely admitted during the night to the sleepers.

In the picture, the street scene represents the volante, erroneous in two particulars: the shafts are quite too short, and the central young lady usually sits the most forward of the party when three ride together, which is usual. The horse is rarely so fat as represented, but the figure of the calisero is excellent; his hat, perfect; even the best dressed liveried coachman! has his legs, as high up as above the knee, encased in jack-boots, and the heel is ornamented with a silver spur; he exhibits at the junction of the shoe and the boot leg, very much what would look at a distance like a silk stocking, but is really black skin. The most fashionable drive two horses to the volante, when the calisero rides the second outside the shaft, and this horse is fastened near the step; he is only for ornament, and for the postilion to display himself on, with his awkward jog-trot. *Mrs. Almy's* was on the bay, and *Wolcott's* (a two-storied house) on the opposite corner. Both could be known in the dark by the number of orange-skins thrown out by eager American boarders. The door at the corner was the entrance to a cigar shop; the wall at the opposite end was the inclosure of the miserable, small, old opera-house, unroofed by a hurricane, and superseded by the more superb *Tacon Theatre* outside the walls.

The names of streets are sometimes significant and striking to strangers; this house is at the corner of the *Street of Light*, *Caillé de Lutz*, and the official street, *Caillé des Officios*, in which the *Post-Office* and *Custom House* are, and appear to have been immemorially. Other streets are *Caillé del Sol* (*Street of the Sun*), *de la Habana*, *Havana Street*, &c.

Sugar, &c.—The high price of sugar has had much to do with the present state of prosperity, as it is called, which induces extravagance and absurd luxury, evidenced by such things as the sale of fans ornamented with original paintings and jewels, at six and seven hundred dollars each. We were assured that half a million of dollars had been made, the past season, by some extensive sugar growers, and that those who made sixty and seventy thousand could be counted by hundreds. The whole profits of the island, this year, from sugar, were estimated by

those who ought to be able to form a judgment, at fifteen millions of our money. It was a season of drought, but the high prices, and increased saccharine matter in the smaller canes, had much more than made up for the deficiency. The Cuban planters have this advantage over those of Louisiana, that the cane-roots survive from year to year. In our country, planting is necessary every season; this is expensive, and the young plant sometimes "catches a cold," as a Cuban termed it when descanting on this fact.

The attention of most visitors is much given to the processes of making sugar, in which vast improvements and economy have latterly been introduced. The ear becomes soon familiar with the words representing new air-tight condensers, and with the names of the most celebrated estates, in which the Brothers Arietta make a prominent figure, their estates being understood to present the best culture and the best boiling, &c., no less than the most successful employment of the Chinese workmen. A very handsome folio volume has lately been published in Havana, descriptive of the best sugar estates; the plates (if we remember, there are fifty-four, well lithographed and colored) are sold together or separately, so that each visitor can bring away characteristic scenes. The whole cost of the book exceeds fifty dollars; it was purchased by one of the party, for deposit, probably, in one of our best public libraries. It is of course in Spanish.

Logwood is a product of the island, and the tree is used for hedges, the trimmings being more or less employed for domestic dyes. Food from the roots of the Yucca and other productions, is prepared on the plantations, but the banana and plantain have superseded the use of the Bread fruit, which was at one period extensively introduced, and is now found growing in gardens, but its product not greatly esteemed or employed.

In many private gardens, it is usual to see the large citron growing rampantly, bent over arbors, and the fruit hanging down, of an enormous size. We were allowed to pick one that weighed four pounds and six ounces, and this was by no means the largest. Limes, lemons, and, in short, all the tribe, grow with wonderful rapidity, and come into bearing very young; but there is little commercial demand for the fruit, and it is sparsely cultivated. But what glorious effects might be produced by the possession of such ornamental trees and shrubs, in connection with Euphorbias, the Cactus, and a thousand things we value so highly! As to attempts at ornament in this way, they are the exception, and more rare than is credible. You may see more Camellias in a small northern greenhouse at home, than will greet your eye during your whole visit to Cuba, where they would grow to a great size, and need no more care than anything else; but there it is so much more easily procured, that what we esteem so highly, is here neglected.

The best fruits of the country find a good market at the conserve factories, the most resorted to being Dominica's, the proprietor of the fashionable ice cream, or, rather, ice *water* shop. He is extensively in the business, and his wares are so, toothsome and excellent, that it is a universal thing for American visitors to invest from a hundred dollars, downwards, in the guava and other jellies and conserves, dried and candied fruit, &c.; these, and domestic manufactures of the same kind, are also much consumed by the Islanders, who seem to live upon fruit, conserves, and vegetables. Dominica's restaurant is more crowded than any we have ever seen.

Commercial Gardens.—There are very few of these; we could hear of but two, one kept by a Frenchman, on the Paséo, who has but little to show, the owner being in poor health. Pedrigal's, however, exhibits a good appearance; the proprietor speaks Spanish only, and he knows only the Spanish names for his plants. This difficulty meets you everywhere, and all being new, the information

you can pick up may be said to be the "pursuit of knowledge under difficulties." Here we found a number of beautiful plants unknown to our green or hothouses, many of which, with a whole cargo of air-plants, were preparing to be, and have since been, shipped to our townsman, James Dundas, Esq., under direction of his enthusiastic relative, Mr. J. Lippincott, Jr., who intelligently explored chapparals, climbed mountains, and underwent every kind of fatigue, and sometimes native opposition, to fill Mr. Dundas's noble houses with the best things that could be procured.

Among them is one plant that will be new to a vast portion of our cultivators. Mr. Pedrigal calls it *Camellia arborea*, and it is about the size of a healthy young Camellia of three years' growth; its peculiarity is, that when set above a stream of water, at a height, as we saw it, of eight or ten feet, it sends down to the water a tube, round and elastic, looking as if made of thread or soft leather; at the end of this are a few little roots, and through these nourishment is sucked, and sent *in the hose!* to the plant.*

Mr. Pedrigal supplies a vast many native plants to European gardens, and to this end, propagates and collects the best air-plants and epiphytes. Every small and large tree in his garden, is the bearer of numerous specimens, so that the place has quite an air-plant air, quite novel and amusing. On a Mamon-tree will be seen air-plants bearing the flowers resembling a monkey, a spider, and a butterfly, proceeding apparently from the same roots which have been grown together from the same starting-point. His verbenas attain the height of six feet! and have concluded to become ascending runners, in compliment to the climate. Then there are trees covered with such novel flowers and fruit, of which we had no previous knowledge, that a year instead of a few days would be required to give them reality to our readers. We must, however, name, in Spanish fashion, the *Pinón real* (of which we obtained a fine drawing for publication in our last number) and La Carolina (of the Bombacæ family), two of the most gorgeous things imaginable. A running vine here attracted all eyes. In Spanish, it is the *Flore de Cinco meses* (five months flower), most superb and novel; but all our specimens were taken from under pressure of a trunk by a wicked Spanish chamber-maid, and thrown into her slop-bucket! which will account for our want of success in naming many articles that were highly interesting and novel.

Mr. Pedrigal has some fine specimens of *Araucaria Braziliensis*, and sells at reasonable prices. Mr. Lippincott very much reduced his varied stock, and we are happy to know they have all arrived in Philadelphia in excellent condition.

We saw at this garden one of the most valuable woods known to the world: the *Hibiscus tiliacæ*, a Malvacea; its fibre is used extensively for making ropes, and its wood is of that durable and elastic quality which gives the long and very strong and elastic shaft-poles of the volante, and which is indispensable, in the absence of hickory, to the manufacture of that universal vehicle.

Roses are about as good as our own; great attention is now being paid to this long-neglected flower, which it was thought would not succeed here; but the Paradise and Persia of roses is in the vicinity of Natches, which we shall attempt to describe hereafter.

* This proves, on nearer examination, to be one of the *Clusias*, the *rosea* or syphon plant, mentioned as enveloping the trees and palms, and named in Mr. Sauvalle's letter in our last number along with *Clusia alba*. The species are trees abounding in a tenacious glutinous juice, of a balsamic flavor, whence the English name Balsam tree. *C. rosea* has handsome flowers; the fruit is green and of the size of a middling apple, with eight lines running like the meridians of a globe from the stalk to the crown of it. When it ripens it opens at these lines, and divides into eight parts, disclosing many mucilaginous scarlet seeds, resembling those of the pomegranate. See the former description of the *alba*.

While on the subject of gardens, we must not omit that of one of our friends, N. J. Gomez, Esq., on the Cerro Road, near the town. Mr. Gomez is an enthusiastic horticulturist, and is likely to do much where so much is wanted to introduce a taste for the best kinds of fruit; he works alone, but with knowledge. At his premises, we had the pleasure of tasting the cherimoyer, the apple banana, and various others, and of feasting our eyes on roses and "queer things" in the way of vegetation, so numerous that we were quite discouraged, and put by our pencil in despair! What a pity the island has no *Horticulturist*, nor a single print that gives any attention to the topic.

The Banana and Plantain.—Indifferent observers will scarcely detect a difference between the banana and plantain, except in the fruit, and here the likeness is great; but the plantain bears a longer fruit, somewhat differently shaped. This splendid and valuable genus, *Musa*, consists of species which have perennial, roundish, solid, watery bulbs, with biennial, and sometimes longer enduring stems. The stems are straight, erect, varying from five to twenty-five feet in height, simple, thick, round, smooth, fungous, watery, and lamellated. The leaves are oblong, and, till split with the winds, entire, from three to ten feet in length, and under two feet in width. The flowers are in large terminating racemes, without a calyx or perianthium, generally whitish, the fertile flowers occupying the lower, and the barren the upper part of the raceme. They are cultivated in great perfection by Mr. Dundas in his noble palm-house in Philadelphia, and succeed tolerably well in sheltered situations in New Orleans.

In the plant most cultivated in the West Indies and Cuba, the herbaceous stalk is fifteen or twenty feet high, with leaves often more than six feet long, and two broad. When the fruit is cut, the stalk is also destroyed, and new sprouts soon appear, one or two only being allowed to grow, and thus a continuous supply is afforded. The skin of the fruit is tough, and within is a soft pulp, of a luscious, sweet flavor that it is very easy to become fond of. The spikes of fruit are often so large as to weigh upwards of forty pounds. Gerarde, and other old authors, name it Adam's Apple, from a notion that it was the forbidden fruit of Eden; whilst others supposed it to be the grapes brought out of the promised land by the spies of Moses. It is certainly one of the most useful fruits in the world, and seems to have migrated with mankind into all the climates in which it can be cultivated; some or other of the plants are bearing most parts of the year, and their fruit is often the whole food of a family. The plantain is roasted, boiled, and fried, when just full grown; it is also eaten boiled with salt meat or fish, and, when ripe, it is made into tarts, or dried as a sweetmeat. A fermented liquor is made from them, and, in some places, a cloth from the fibres of the trunk; the leaves make excellent mats, or serve for stuffing mattresses. Its value may be judged of by the fact that three dozen plantains are sufficient to serve one man for a week instead of bread, and will support him much longer.

Mr. Sauvalle, the botanist of the island, assured us that in the banana would be found the long sought substitute for rags in paper making, and we have but little doubt respecting this. The amount of fibre contained in the stalk is very great—certainly not less than forty per cent.—and this is easily reduced to pulp. So confident is Mr. S. respecting this (and his opinion will have great weight with all who know him), that he would be willing to enter into arrangements with a practical paper-maker to establish the manufacture, for which the greatest abundance of material, now wasted or thrown away, could be had. From Mr. Sauvalle's position and wealth, this is a feasible project. He does not doubt that the premium offered, in London, of a thousand pounds sterling, for a substitute for the materials at present so scarce, could be obtained after a fair experiment.

John Chinaman.—On the first information received in this country that *Coolies* were imported into Cuba under an apprenticeship contract, a very erroneous impression was created here respecting their treatment. A few of the first cargoes, it was true, suffered from ill-usage; the planters did not understand the character of the new people they had obtained, and they treated them harshly. The Chinaman parts with life, under such circumstances, with a *nonchalance* unknown to the African, and considers that he is doing his master a great injury if he destroys himself while in his employ; a number who were treated to the lash thus perished, and an impression got footing in this country that is not warranted by subsequent experience. It is ascertained that, though the contract they make in China, to be returned, free of cost, at the expiration of their servitude of eight years, is binding on the shipper, remarkably few instances have occurred of their making this demand. They find profitable employment immediately on the conclusion of the contract, and are altogether in a better condition than at home, as respects food and competence. Most of them can read and write, and have a trade, such as shoemaking, black and tinsmiths, conserve-makers, &c.; some are at once employed in these arts; others go to the sugar depots; a large number hire themselves as domestic servants, and we saw many in positions of trust on the railroads, &c. They are much esteemed in private families, make capital waiters, and are trusted where the negro shows little or no capacity for head-work.

The contract in the Chinese port is to land them in Cuba, and place them in service for eight years, with the privilege of a return passage, for which bond is given to the authorities. In addition to maintenance, sick or well, the employer pays them four dollars a month till their term is over, at which time they readily obtain from fifteen to seventeen dollars, and soon begin to accumulate an independence. The price obtained by the importer, at first, was three hundred dollars for each well-conditioned man, but this sum has advanced from thirty to fifty per cent., leaving a large profit to the merchant; so that greater numbers are arriving and expected. They bring no women with them; it was thought, however, their accumulations of money would be used to send for their wives and families. In Havana, a few persons purchase the time of the newly imported men, and hire them out in families at a profit. We found, at various tables, the Chinaman behind our chair very attentive, cleanly, and polite. In our hotel, a young fellow some time in Cuba, was the best waiter on hand; he attached himself to one of the party, and seemed quite willing to accompany him to Philadelphia, but his last question decided him not to come: "Was there any Chinese for him to associate with?" The "None" was the discouragement.

You see "John" all over Havana, and we were told he was in the thick of the gambling at the bull-fights and cock-pits. What effect is to be produced by this influx of a new race, would puzzle that wiseacre, the political economist, who can best predict the result after it is known; he was greatly at fault as to the rate of interest money would command when gold was so plentiful as to be turned up by every industrious spade, and he must wait a while to solve this new Chinese problem.

This mode of importing Chinamen differs very little from the one long employed in this country with what we called "Redemptioners" from Germany in years gone by, when ship loads were regularly sold, and a black man in our employ bought a white wife from the captain of a ship in the Delaware; but it differs in the character of the race. The "Redemptioner" soon amalgamated with the people, and his descendants have become good citizens. The Chinese will not do this; they will most probably retain their characteristics in every country where they penetrate, and form a distinct class. They are wanted among us for house-servants, and the probability is, they will not be long in coming.

One morning, in perambulating the streets of Havana, we saw a part of a cargo of Chinamen walking in the rear of a Spaniard, who was mounted on horseback, with a whip and a sword. Their time had been purchased, and they were on the way to a plantation, to complete their term of service. A healthier or merrier set of men it would be difficult to remember; they were very thinly clad, without shoes or stockings, some wearing the queer native conical hat of China, and others bare-headed. Each one carried a strip of Canton matting, about six feet long and two wide, which was their only requirement for a bed! Very few had any other baggage, though a dozen or so possessed a few clothes tied up in a strip of muslin as large as a small handkerchief. We followed them to the steamboat that was to convey them across the bay. At the landing there was a short detention, waiting for the boat, and our Americans, seeing their jolly faces expand with a laugh, commenced a dumb conversation with their fingers, to which the Chinese replied most merrily, neither party of course understanding that more was meant than a recognition. Arrived on the sugar estates, the policy of the employer has taught him the necessity of kindness, and the most considerate give them a good long rest before setting them to work. As we said before, the problem has yet to be solved as to the policy of this great introduction of Asiatics, but their present condition will be better understood among us from the facts above stated.

They are now so numerous in Havana, as to create no remark. The gang above described, excited little or no attention as they quietly walked through the streets—not half so much, in fact, as an elderly Virginia gentleman, who made his appearance, daily, in the full dress of the times of Thomas Jefferson: shortish, narrow blue-coat and metal buttons, outside boots, and a Cuba hat! He was the observed of all observers, the Havanese not knowing from what country he could have emanated!

PEAR CULTURE.

MR. HOVEY GIVES IT UP!—THE QUINCE-STOCK.

BY QUERIST.

I have been a looker-on in Venice, Mr. Editor, during the well conducted little *joust* we have had regarding pear culture on the quince, and have not a little applauded the course of the *Horticulturist*, which seems to me to have had but one object, to elicit the truth. You have said throughout, "the dwarf for the garden, the standard for the orchard." Some cultivators and editors who had committed themselves and their nurseries to the quince stock, took fire and threatened war and devastation, blight and destruction, to all who did not think at least that dwarf pear trees were *salable*. I acknowledge I was doubtful which had the best of the argument, and trembled sometimes for the good periodical which admitted such arguments as Dr. Ward's, and when I saw the following, signed "Editor," in Hovey's *Magazine*, I was frightened, for I considered the field in possession of the dwarfs, if somebody did not come to the rescue. I had no idea, then, that the call from the battle field would come from Boston! But it has!

At page 500 of vol. xxii. of Hovey's *Magazine* (1856) will be found the annexed little bit of criticism. It has since been referred to by the Editor as embracing his decided views, as, in fact, to use his own language, "*an answering of all the objections* which have been made to trees of this kind, and do not deem it worth the time and space we might occupy to enter into a defence of dwarf pears again."

Fortunately for science, I have found the number, "page 500, vol. xxii.," and here it is, the whole of it, being the editor's comments on the communication of a correspondent:—

A more satisfactory answer to the tirade of nonsense which is going the rounds of the papers in reference to the cultivation of "dwarf pears," viz., the pear upon the quince, could not well be given. It is to the point, and coming as it does from one who is amply able, after many years of observation in France and Belgium, where the pear has so long been cultivated, as well as in our own country, to give an opinion, will have the influence to which its sound common sense duly entitles it.

It is one of the most serious drawbacks to all progress in horticultural art, especially in our country, that so much empiricism is mixed up with a thorough scientific knowledge of cultivation; that those who do not know the first principles of a science should attempt to teach those who have made it a life-long study. It is from this fact that such contradictory statements are constantly made, which mystify the new beginner, lead him astray, and force him to rely on his own experience, often dearly bought, and always with great loss of time. With so much apparent information before him, and without the necessary knowledge to enable him to decide where the truth lies, he adopts first one course of culture and then another, *until at last, if his zeal holds out*, he finds at his cost that he has been following the visionary notions of some fancy theorist, rather than the true principles of horticultural science.

This attempt to write down the quince stock is a sample of a thousand similar attempts in the literature of gardening to assail some of the soundest principles of physiological science, and practical art; and it will end, as all similar attempts have, in more thoroughly convincing those who resort to the proper sources of information, how egregiously they have been deceived in following the notions of those who write well enough, or criticize wonderfully wise, but whose practice is as barren as some of the ideas which they attempt to advance.

It is not really, at this late day, worth while to waste time and paper to attempt to controvert such statements as our correspondent briefly reviews in his excellent article; at least we have not thought so. Those who can be induced to believe them, must know but very little of the experience of the past, or be sadly deficient in that knowledge which every one must possess to be a successful cultivator.

We are ready to admit that the quince has been brought into unjust repute by the practice of some inexperienced nurserymen, who recommend many varieties which *will not succeed* upon that stock; but *this is the exception to the rule,** and is acknowledged by all who fully appreciate its usefulness.

In conclusion, we need only refer to an article in a previous volume (xvii. p. 385), upon the cultivation of the pear upon the quince stock, in which our views are fully expressed, and satisfactory evidence adduced to show its very great value in the culture of this delicious fruit. Subsequent experience has more fully confirmed the opinions recorded in the volume referred to.—Ed.

This is but a recent flare up, Mr. Editor; it is only so late as November, 1856. Let us see how times change, and we with them. The refutation of the above appears in July, 1857, reminding one of the parody of Shakspeare—

"And the funeral bak'd meats
Served for the wedding dinner.

Now let us hear Mr. Hovey's opinion from his own pen, and in his own *Magazine* of July, 1857:—

Were it not for the amateur cultivators, who send their surplus crop to market, it would be difficult to procure superior fruit, notwithstanding the very high price which it always commands. Fortunately, the fine specimens which have occasionally been offered, have shown to what perfection our best fruits may be grown; and those who can profit by example have done so, and fine specimens, though by no means abundant, *are less so than formerly.*† We can only hope that continued attention to the rearing and management of

* Compare this with the subsequent article in which Mr. H. says quite the reverse, if language means anything.—Q.

† "And what," said Mr. Hovey, only in May last, page 212, "is the result of the conflict—

trees will result in a liberal supply of that which is good, in place of the inferior products of our gardens and orchards.

To accomplish this, however, especially with the pear, which stands at the head of our hardy fruits, it is scarcely possible to do so only under what may be termed artificial culture—that is, growing the trees as pyramids or espaliers; so many of the choicest kinds require shelter or protection from our cold winds, that as orchard trees, only in highly favored situations, they cannot be relied upon for constant crops of the finest fruit. We may, in time, possess such varieties, *but at present there are but a few which give good results under such treatment.* Other fruit trees are less capricious in their growth and produce.

Sancho Panza, having just returned home after a long absence, the first thing which his wife, Teresa, asks about, is the welfare of the steed. "I have brought him back," answers Sancho, "and in much better health and condition than I am in myself." "The Lord be praised," said Teresa, "for this his great mercy to me."

Then follows an essay on pruning, thinning, and mulching, and we are introduced to the subject of "watering," in which he says: "There are few sorts of pears which do not, in our climate, at some period of the summer need watering." If one's orchard needs mulching and watering, besides high manuring, digging, trenching, root-pruning, thinning and mulching, and now and then a little guano and a little super-phosphate, I am *very much* afraid it will be cheaper to import pears from France or purchase oranges. But here I leave it to others to say whether our advocate for the "Pear on the Quince" gives it up in the 1857 evidence of his opinion or not, and sing with the children, "Oh! Mr. Brown, don't give it up so!"

["Querist" is rather harsh in his article, from which we have been obliged to strike some severe irrelevant remarks. We scarcely anticipated such a recantation, and perhaps Mr. H. will say he has been misunderstood.—ED.]

CAN WE AFFORD TO LIVE IN IT?

OCCASIONALLY some millionaire builds a mansion, which is the admiration of the town, or erects a country house, which, with its grounds, is the pride and boast of its neighborhood. In time the great man dies, becomes insolvent, goes abroad, or tires of his hobby; and then the property is put up for sale. Everybody crowds to see the dwelling, or drives out to the country house. The pictures, the furniture, the hot-house, or the grounds, are by turns the theme of admiration. The night of the sale arrives. The auction room is crowded. To judge from the sea of faces looking up at the crier, one might think that the competition would be enormous. But the fact is the reverse. The auctioneer expatiates long before he can obtain a single offer; the property, at first, seems about to be knocked down to the first bidder; and when, at last, other offers are made, they come almost reluctantly, and though the hammer falls amid a general cry "how cheap!" the purchaser looks as if he already half repented of his bargain.

And why? Simply because it is one thing to buy a costly house, but quite another thing to live in it. Men, before they purchase a stately mansion, should ask themselves whether they can afford to keep it in appropriate style. A hundred thousand dollars for a dwelling makes necessary thousands of dollars for

ing views of these cultivators? Why, while the Boston amateurs who have had THIRTY YEARS' experience, and place some reliance on the experience of foreign cultivators, are enjoying the luxury of delicious pears *in great profusion*, the New York and Philadelphia cultivators are setting out their trees and digging them up again," &c. In July, "we can only *hope* that continued attention *will* result in a liberal supply;" and, "fine specimens, though by no means abundant, are less so than formerly." Rich and fruity, isn't it!—Q.

furniture, thousands for dress and equipage, and thousands more for servants, parties, Newport and Saratoga. There is a fitness in things, demanded by public opinion, which requires these expenses, and to this opinion nine men out of ten sooner or later practically yield, even if they or their wives do not embark in the extravagances at once. But usually there is no backwardness in this respect. Fitznoodle purchases a new house, with rosewood doors, walnut staircases, stained glass windows, and before he has fairly recorded his deed, Mrs. Fitznoodle wants the walls frescoed and panelled with satin, and ten thousand other superfluities. The estimated cost of the movement is soon trebled; the annual outlay grows in proportion; and Mr. Fitznoodle is either ruined, or condemned to groan, forever after, over his increasing expenses.

What is true of the would-be fashionable is just as true, however, of persons with more limited means. If men worth only a hundred thousand dollars or two, ape the millionaire's style of living, so do young merchants, professional men, even clerks and mechanics, ape those richer than themselves. The weakness of wishing to live in a fine house is almost universal. The fine house, too, is relative; for that which a millionaire scorns, the young merchant thinks superb, and that which the merchant looks down on, the clerk pinches himself to obtain. It is amazing how many families live in dwellings beyond their means! The miserable shifts to which such families are driven in order to keep up appearances, are melancholy to think upon. In the end, too, the head of the family dies, having laid by nothing, and the widow and children sink into a hopeless poverty, the more poignant to them, because of the mortification attending it. It would be well if the question was oftener asked, when moving into a better house is proposed, "Can we afford to live in it?"

RHODODENDRONS.

BY JOHN SAUL, WASHINGTON CITY, D. C.

FOREMOST among evergreen shrubs stands this beautiful genus; beautiful in its foliage and habit of plants, but beautiful, gorgeous and magnificent in its flowers. This is true of our native varieties; for what more beautiful than a good variety of *Catawbiense*! It is true of the European species, and more true still of the beautiful scarlet species from the Himalayas, and the innumerable species from Sikkim; Borneo, also, producing some magnificent epiphytal species. The few remarks I am about to make will be in reference to our native species, or such as may be crossed to advantage with them. Of late these beautiful plants are attracting some attention, but unless care is taken in selecting varieties of hardy parentage, disappointment is sure to follow. All our American species and varieties may be cultivated. Among the best are the following: *R. Catawbiense*,* *R. maximum*, *R. M. album*, *R. M. purpureum*, *R. punctatum*, *R. azaleoides*, *R. Cataebæi*, *R. Californica*, &c. Here is a very nice list to begin with, and the three first are as good as many of the finest foreign varieties. The first, *R. Catawbiense*, has been used in Europe in crossing with the eastern species more than any other, it possesses so many good qualities. The habit and foliage are good; it has a large finely-formed truss of bloom, the individual flowers well-shaped. This crossed with *arborea* produced *altaclarensis*, the first scarlet hybrid

* The variety figured some time back in the *Horticulturist*, judging from the plate, appears to be a variety of this.

rhododendron that appeared in England, and hardy; it was raised at Highclere* in Hampshire, and caused quite a sensation among the admirers of this flower at the time. Many other good seedlings were subsequently raised, but the great fault of these first seedlings, was their early season of blooming, being generally destroyed by cold winds or frosts; latterly, however, this has been overcome by repeated crossing with the late blooming species, until we have now varieties sufficiently late, and of fine shape and color. If any of our cultivators would like to experiment in this way, take a plant of *R. Catawbiense*, or *R. maximum*, and in place of crossing with a hybrid of the first generation, as *altaclarensis*, cross with the third or fourth generation (having one of these as parent in each cross); such would be *pulchellum*, *Towardii*, *elegans*, *Standishii*, *Mrs. Loudon*, &c., the offspring will be a seedling nearly as hardy as its American parent; and, by following this up, a race will be found as hardy as our native varieties, with brilliant, finely-shaped flowers. There is another great advantage in this, whilst the first and second generation of hybrids take many years to bloom, the third and fourth bloom at a very early age, and in the greatest profusion. Many persons imagine they can purchase rhododendrons in Europe at a very cheap rate; so they can such varieties as are usually planted in woods as shelter for game, and principally composed of the poorest varieties of *Pontica*; but a grower of such plants would no more take these, than an orchardist would a lot of seedling crabs to plant his orchard with; when a good variety is produced, it is increased by grafting, and as these require a little more care than common things, good varieties of rhododendron command a good price. Varieties which are increased in this way will command two-and-sixpence to three-and-sixpence each, whilst rarer varieties run a great deal higher.† Not their best seedlings can you get; breeders of rhododendrons, like raisers of other things, know from the parentage what to expect, and by examining the foliage they can pick out all the finest and best varieties with scarcely a *mistake*. True, raisers are sometimes deceived in this way, but it is not often; the cullings of the beds are then sold cheaply to some of our bargain-hunting gentlemen, when they doubtless think they have succeeded admirably. From parentage they cannot judge unless acquainted with rhododendrons and their breeding. To illustrate this, take *Catawbiense* and cross it with *altaclarensis*, and the result will be a good scarlet hybrid; but cross the latter with a similar hybrid, as *pulcherrima*, and the result will be a race of the most miserable and worthless hybrids. I know of no class of shrubs where more care or judgment is necessary than in this very one, that good varieties alone may be selected.

Rhododendrons are more readily raised from seeds than persons unacquainted with the operation may imagine; the seed ripens about February; it is very minute, and should be sown immediately in pans or pots of very sandy peat or leaf mould; the seed had better not be covered, merely shaken over the surface of the soil, and the latter kept covered with a little damp moss, until the seeds are up and in their seed leaf, when it should be removed; the seedlings must,

* Mr. H. Burn, of Tottingham Park, England, began to hybridize about the same time. Fifteen years ago, on visiting Tottingham Park, Mr. B. pointed out a large plant of *R. Catawbiense*, from which he raised the bulk of his seedlings. It was at the time growing with his other rhododendrons out-doors, but he remarked he was in the habit of putting it in a tub early in spring, and force it that he might have it in bloom the same time as *arborea*.

† I am aware it has been said these may be purchased much lower; but these are mixed seedlings. A few years since a large lot came to this city from one of the most noted firms in England; they should have been *Catawbiense* and *maxima*, chiefly the former, but one-tenth did not belong to these varieties; the consequence is, that sun and frost have nearly destroyed the whole.

however, be kept shaded. I ought to have said when sown, the pots should be placed in a gentle hotbed or propagating house, where the atmosphere is close, humid, but not very hot; they had better for the first year be grown in a house of this kind. By the first autumn they ought to be three to four, and many six inches high. The first winter they will require shelter in a close frame or pit; all hardy varieties, such as Catawbiense, maxima, &c., can be planted out in spring in prepared beds of peat or leaf mould, &c., in a shady situation; in about two or three years they will commence flowering, though many will not for three or four, and some later. In a climate such as that of England, these plants may be cultivated in open exposed situations; but in such a situation here these plants would suffer under our brilliant suns, their natural habitats being the shade of forests. Under the shade of trees will therefore be found their proper place. These beds or masses may be formed eighteen inches deep, and any given width, and filled with sandy peat, or leaf mould. As the former is not often to be had, the latter will answer every purpose; with it may be mixed a good quantity of sawdust, either in a fresh or decomposed state. This last has been found one of the best materials to mix with rhododendron soils; the small fibres will root freely into it, even in a fresh state; this may appear strange to some, yet it is nevertheless true, and I would strongly recommend it to persons forming rhododendron beds. Those who have them made already will find a mulching of sawdust over their beds, three or four inches thick, of great advantage.

In planting trees and shrubs the universal rule is, plant no deeper than they stood before. Though good advice for trees in general, it will not hold good for rhododendrons; on the contrary, I would recommend having them planted three or four inches deeper than they stood before; this is the practice of the best growers. I shall probably be required to give a reason for this; I would say it arises from the fact that their roots are mere fibres or threads, and they are disposed to produce them from the stems when planted deep or mulched over. If observed in their native habitats, it will be found that there is almost invariably a quantity of decayed leaves and half decayed, congregated about the stems to a considerable height; hence the good effects of planting deep or mulching high.

["Mulching high" will answer alone; the best success will be had by those who plant near the surface, in fact only sift leaf mould and sand on the roots, staking them, and letting nature have the same process she loves in the native place of these lovely plants.—Ed.]

THE AMERICAN PLANE-TREE.

BY E. N. PLANK, WOLCOTT, NEW YORK.

THERE are few, if any, of our native forest trees more worthy of the attention of the student of nature, than the American plane-tree (*Platanus occidentalis*). Its broad and ample foliage, the grandeur of its proportions, and the beautifully variegated appearance which its outer bark presents, combine to render it one of the most attractive objects of American forest scenery. Not adapting itself so readily to a cultivated state as some of our native trees, to see it in all its beauty, it must be sought for in its favorite habitat, the alluvial banks of our creeks and rivers. Until the recent discovery in California of the *Sequoia gigantea*, the plane-tree enjoyed the distinguished honor of being the largest known tree in America. And though it must now yield the palm to its Californian rival, yet its own merits are none the less. There is now standing within two miles of the village of Wolcott, N. Y., a tree of this noble species, of such giant proportions,

as to render it worthy of being recorded among the wonders of the vegetable kingdom. The tree consists of a single trunk attaining the height, perhaps, of eighty feet, and is now lifeless and hollow throughout its entire length. At a distance of two feet from the ground, it is thirty-three feet in circumference, and varies but little from this for some distance above. My feelings, as, in company with a few friends, I for the first time approached the old tree, bordered, I must confess, not a little upon veneration; there it stood, like a vast column rising majestically in the air, surrounded by its brethren of the forest, which, though of average size, compared with it, were pigmies. What a train of ideas enter the mind while contemplating such a tree. There it may have stood, perhaps, for a thousand years; and could it speak, what stories it might tell of past ages. It may have been a large tree when Columbus first landed on our shores, and a moderately-sized sapling when the Northmen, from the decks of their rude ships, first saw the sombre pine forests of New England. The old tree did speak, though in a voice, perhaps, inaudible to all but the writer. It spoke of the pleasure and profit to be derived from the study of nature's works, and of the happiness of those to whom it is given to understand her mysteries. But the old tree is dead, and soon the winds of heaven will lay its gigantic and venerable form prostrate in the dust, when mouldering back to its original elements, it will in its turn furnish sustenance for others of its species. Thus in the economy of nature, the past is linked to the present, the dead with the living, and thus the great cycle of her operations is forever kept complete. Yours, &c.

[The American Buttonwood, *Platanus Occidentalis*.—London and other writers some years ago stated that the American buttonwood or plane-tree was attacked with the same disease in England as had affected it here. The following remarks of Sir W. Hooker, seem to show that the *P. occidentalis* is rare in England, *P. acerifolia* having probably been mistaken for it: "I think, however, we have arrived at the conclusion that *P. acerifolia*, though nearest in botanical characters to *P. occidentalis*, is nevertheless quite distinct, readily distinguished by those who have paid attention to it, and not introduced from any part of the New World; that its actual locality is not yet ascertained, and that we want a clearly defined specific character derived from flowers and fruit as well as the foliage, and taken from the living plant; and further, we want to know if there are any old trees of true *P. occidentalis* in the country. Our own rich herbarium of native species of *Platanus* contains *P. orientalis*, L. (and the only one of the Old World), *P. occidentalis*, L. (known by the short and broad lobes to the leaves, and the fertile heads of flowers being solitary), *P. mexicana*, Moricand (perhaps too near *P. occidentalis*), and *P. racemosus* of Nuttall (*P. Californica*, Benth.).]

LEGENDS OF TREES, NO. 1.

MR. EDITOR: Before me I have a volume of Sears' *Pictorial Library*, and coming across an article headed "Legends respecting Trees," I thought I would copy a few paragraphs from time to time, for occasional insertion in the *Horticulturist*. As the "Legends" are highly interesting, I presumed it would be a valuable acquisition to the pages of your valuable journal.

Yours, truly, WM. H. ALEXANDER.

"The *White Poplar*, according to ancient mythology, was consecrated to Hercules, because he destroyed Cacus in a cavern of Mount Aventine, which was covered with these trees; and, in the moment of his triumph, bound his brow with a branch of one as a token of his victory. When he descended into the

infernal regions, he also returned with a wreath of White Poplar round his head. It was this, says the fable, that made the leaves of the color they are now. The perspiration from the hero's brow made the inner part of the leaf white; while the smoke of the lower region turned the upper surface of the leaves almost black. Persons sacrificing to Hercules, were always crowned with branches of this tree; and all who had gloriously conquered their enemies in battle, wore garlands of it, in imitation of Hercules. It is said that the ancients consecrated the White Poplar to Time, because the leaves are in continual agitation; and being of a blackish-green on one side, with a thick white cotton on the other, these were supposed to indicate the alternation of day and night.

"The *Black Poplar* is no less celebrated in fable than its congener above-mentioned. According to Ovid, when Phaeton borrowed the chariot and horses of the sun, and, by his heedless driving, set half the world on fire, he was hurled from the chariot by Jupiter, into the Po, where he was drowned; and his sisters—the Heliades—wandering on the banks of the river, were changed into trees—supposed, by most commentators, to be Poplars. The evidence in favor of the poplar, consists in there being abundance of Black Poplars on the banks of the Po; in the Poplar, in common with many other aquatic trees, being so surcharged with moisture as to have it exuding through the pores of the leaves, which may thus literally be said to weep; and in there being no tree on which the sun shines more brightly than on the Black Poplar, thus still showing gleams of parental affection to the only memorial left of the unhappy son whom his own fondness had contributed to destroy.

"The *Apple-tree*, so singularly connected with the first transgression and fall of man, is distinguished alike in the mythologies of the Greeks, Scandinavians, and Druids. The golden fruits of the Hesperides, which it was one of the labors of Hercules to procure, in spite of the sleepless dragon which guarded them, were believed by the pagans to be apples. Hercules was worshipped by the Thebans under the name of Melius, and apples were offered at his altars. The origin of this custom was the circumstance of the River Asopus having, on one occasion, overflowed its banks to such an extent as to render it impossible to bring a sheep across it which was to be sacrificed to Hercules, when some youths, recollecting that an apple bore the same name as a sheep in Greek (*mélon*), offered an apple, with four little sticks stuck in it, to resemble legs, as a substitute for sheep; and after that period, the pagans always considered the apple as especially devoted to Hercules. In the Scandinavian *Edda*, we are told that the goddess Iduna had the care of apples which had the power of conferring immortality, and which were consequently reserved for the gods, who ate of them when they began to feel themselves growing old. The evil spirit, Loke, took away Iduna and her apple-tree, and hid them in a forest, where they could not be found by the gods. In consequence of this malicious theft, everything went wrong in the world. The gods became old and infirm, and, enfeebled both in body and in mind, no longer paid the same attention to the affairs of the earth; and men, having no one to look after them, fell into evil courses, and became the prey of the evil spirit. At length, the gods, finding matters getting worse and worse every day, roused their last remains of vigor, and combining together, forced Loke to restore the tree.

"The Druids paid particular reverence to the apple-tree, because the mistletoe was supposed to grow only on it and the oak, and, also, on account of the usefulness of its fruit. In consequence of this feeling, the apple was cultivated in Britain from the earliest ages of which we have any record; and Glastonbury was called the apple-orchard, from the quantity of apples grown there previous to the time of the Romans. Many old rites and ceremonies are therefore connected

with this tree, some of which are practised in the orchard districts even at the present day. 'On Christmas Eve,' says Mrs. Bray, 'the farmers and their men, in Devonshire, take a large bowl of cider, with a toast in it, and carrying it in state to the orchard, they salute the apple-trees with much ceremony, in order to make them bear well next season.' This salutation consists in throwing some of the cider about the roots of the tree, placing bits of the toast on the branches, and then forming themselves into a ring, they, like the bards of old, set up their voices and sing a song, which may be found in Brand's *Popular Antiquities*. In Hone's *Every-Day Book*, this custom is mentioned, but with some slight variation.

"The wassail bowl—drunk on All-Hallow E'en, Twelfth Day Eve, Christmas Eve, and on other festivals of the Church—was compounded of ale, sugar, nutmeg, and roasted apples, which every person partook of, each taking out an apple with the spoon, and then drinking out of the bowl. Sometimes the roasted apples were bruised, and mixed with milk or white wine, instead of ale; and, in some parts of the country, apples were roasted on a string, till they dropped off into a bowl of spiced ale beneath, which was called "Lamb's Wool." The reason of this name (which is common to all compounds of apples and ale) is attributed by Vallancey to its being drunk on the 31st of October (All-Hallow E'en), the first day of November being dedicated to the angel presiding over fruit, seeds, &c., and therefore named *La Mas Ubhal*—that is, the day of the apple fruit—and this being pronounced lamo-sool, soon became corrupted, by the English, into lamb's wool. Apples were blessed by the priests on the 25th of July, and an especial form for this purpose is preserved in the manual of the Church of Sarum.

"The custom of bobbing for apples on All-Hallow E'en, and on All-Saints' Day, which was formerly common over all England, and is still practised in some parts of Ireland, has lately been rendered familiar by M'Clise's masterly painting of the 'Sports of All-Hallow E'en.' A kind of hanging-beam—which was continually turning—was suspended from the roof of the room, and an apple placed at one end, and a lighted candle at the other. The parties having their hands tied behind them, and trying to catch the apple with their mouths, frequently caught the candle instead. In Warwickshire, apples are tied to a string, and caught at in the same manner, but the lighted candle is omitted; and, in the same county, children roast apples on a string on Christmas Eve, the first who can catch an apple when it drops from the string, getting it. In Scotland, apples are put into a tub of water, and then bobbed for with the mouth.

"The *Ash*, according to heathen mythology, furnished the wood of which Cupid made his arrows before he had learned to adopt the more fatal cypress. In the Scandinavian *Edda*, it is stated that the court of the gods is held under a mighty Ash, the summit of which reaches the heavens, the branches overshadow the whole earth, and the roots penetrate to the infernal regions. An eagle rests on its summit, to observe everything that passes, to whom a squirrel constantly ascends, to report those things which the exalted bird may have neglected to notice. Serpents are twined round the trunk, and from the roots there spring two limpid fountains, in one of which wisdom lies concealed, and in the other, a knowledge of the things to come. Three virgins constantly attend on this tree, to sprinkle its leaves with water from the magic fountains, and this water, falling on the earth in the shape of dew, produces honey. Man, according to the *Edda*, was formed from the wood of this tree. Ancient writers of all nations state that the serpent entertains an extraordinary respect for the Ash. Pliny says that if a serpent be placed near a fire, and both surrounded by ashen twigs, the serpent will sooner run into the fire than pass over the pieces of Ash; and Dioscorides asserts, that the juice of Ash leaves, mixed with wine, is a cure for the bite of that reptile.

"The *Oak* appears early to have been an object of worship among the Celts and ancient Britons. Under the form of this tree, the Celts worshipped their god Tuet, and the Britons Tarnawa, their god of thunder. Baal, the Celtic god of fire, whose festival (that of Yule) was kept at Christmas, was also worshipped under the semblance of an Oak. The Druids professed to maintain perpetual fire, and once every year all the fires belonging to the people were extinguished, and relighted from the sacred fire of their priests. This was the origin of the Yule log, with which, even so lately as the middle of last century, the Christmas fire, in some parts of the country, was always kindled, a fresh log being thrown on and lighted, but taken off before it was consumed, and reserved to kindle the Christmas fire of the following year. The Yule log was always of Oak, and as the ancient Britons believed that it was essential for their hearth fires to be renewed every year from the sacred fire of the Druids, so their descendants thought that some misfortune would befall them if any accident happened to the Yule log.

"The worship of the Druids was generally performed under an Oak, and a heap of stones or cairn was erected, on which the sacred fire was kindled. Before the ceremony of gathering the mistletoe, the Druids fasted for several days, and offered sacrifices in wicker baskets or frames, which, however, were not of willow, but of Oak twigs, curiously interwoven, and were similar to that still carried by Jack-in-the-green on May-day, which, according to some, is a relic of Druidism. The well known chorus of 'Hey, derry down,' according to Professor Burnet, was a Druidic chant, signifying, literally: 'In a circle, the Oak move around.' Criminals were tried under an Oak-tree, the judge, with the jury, being seated under its shade, and the culprit placed in a circle made by the chief Druid's wand. The Saxons also held their national meetings under an Oak, and the celebrated conference between the Saxons and the Britons, after the invasion of the former, was held under the Oaks of Dartmoor."

(To be continued.)

BOYDELL'S TRACTION ENGINE AND ENDLESS RAILWAY.

On Wednesday, May 27, we joined the company which went to Wimbish Hall Farm, to witness the trial of a machine that, beyond a doubt, is one of those inventions destined to supersede, to a certain extent, the most ancient implement of husbandry, the dextrous management of which has hitherto constituted the proudest achievement of the agricultural laborer, and the glory of the farmer. Notwithstanding the claims that prescription confers upon this old and favorite servant, simplified and perfected as it has been by science, and beautified by artistic skill, its condemnation as a cultivator solely dependent for its application upon animal power, is sufficiently insured to render its decline but a question of time. Ere long, it must be allied with, or superseded by, the monster energy of steam in place of horse power.

Wimbish Hall is situated at the distance of four miles from Saffron Walden, in Essex. On the farm on which the trial of the Traction Engine took place, the soil consists of a strong, *very strong* clay, common to the district, but having a subsoil of a mixture of clay, sand, and marl. The field on which we found the machine at work, was, perhaps, as unfavorable a one, for the success of the trial, as could have been selected in the whole kingdom. With a soil naturally heavy, adhesive, and intractable, it had, as a matter of course, been latterly neglected by the out-going tenant; and, being under a dead, untilled fallow, was sufficiently hard-baked by the sun, wind, and rain, alternately, to make it difficult enough to

manage under any circumstances, but particularly so with a new machine, handled by men unaccustomed to its peculiarities. Added to these disadvantages, was the arrangement by which the land was to be ploughed *athwart* the old ridges, which greatly increased the difficulty of working the ploughs. It was remarked to us by several old farmers, that "if they worked well on that land, they would do so anywhere."

There were only three ploughs at work when we reached the field. On the first day, there were, as we understood, six, or, rather, three double ploughs; but it was evident these were not adapted, in point of strength, to the stubborn character of the soil, for all of them were broken or strained. Those subsequently used were the common ploughs of the farm. The machine was travelling at the rate of about three miles per hour, or probably two and three-quarters miles, exclusive of stoppages. Its motion was steady and direct; and it appeared to be under as complete control, in regard to stopping and backing, *to an inch*, as a horse, the ploughs performing their part with perfect efficiency, if not with ease to the men who held them, and who had evidently no sinecure berth of it. The furrows turned were fully a foot in width, and four, six, eight, and even ten inches in depth, accordingly as the managing engineer wished to test the capability of the machine. We particularly observed that the furrows, instead of being turned over in one continuous, unbroken surface, which, in the common ploughing of such land, renders the harrow useless until the soil has been mellowed by the atmosphere, were, by the quick action of the ploughs, broken up and separated, so as to expose the whole body of earth to the action of the air. We have no doubt that, if necessary, the harrows might have been efficiently employed the next day; for, on pressing the soil with the foot, it at once crumbled to pieces. We mention this as of particular importance on so adhesive a soil as the one on which the trial took place. In conversation with several of the farmers of the district, they one and all expressed their approval of the manner in which the ploughs performed their work. Some of the older ones feared the ploughing "was too deep," admitting, however, at the same time, that, where the land-drains had been dug (which, of course, were much deeper), they would expect the best crops, either of corn or roots. A delay of three hours took place, in consequence of the breaking of a piston belonging to the pump. This, however, was neatly repaired by a smith in the village, and the machine got to work again about four o'clock.

Having thus given our opinion of the work performed (in which respect, we consider the trial to have been successful), we have the less pleasing, but not less necessary task of stating what, according to our views, are the most apparent defects of the machine. These are chiefly confined to the mode of traction, which, as applied when we saw it, appeared irregular and confused, rendering the ploughs very liable to be thrown out of their work. It struck us that this was chiefly owing to the distance between the tractive power and the plough; or, in other words, the length of the traction-chain, which increases both the difficulty of holding the plough and the irregularity of its movement. In common ploughing with horses, it is considered that the nearer the plough is to the motive power, the steadier and more regularly it works—on the principle that the segment of a small circle is under more complete control than that of a large one, the gyrations of which, too, are wider when a disturbance takes place.

Another inconvenience (arising, we apprehend, from the same cause), is the great strain upon the men holding the ploughs. This, on such a soil as that of Wimbish Hall Farm, must very soon exhaust their strength. And besides, the chains approaching so near each other, are liable to get entangled, whilst the men find it very difficult to keep clear of them and avoid an accident. They certainly



ought to have nothing to think of but the work before them, which, with a machine of such power, requires undivided attention; and this cannot be given with the chains in such close proximity to the legs of the ploughmen as was the case on Wednesday. Possibly, this objection may be, in some respect, modified with the double ploughs, which allow more space between each chain. But the former objection holds equally good with them as with the single plough, being, at the same time, of double the importance in regard to delay.

The Endless Railway, unsightly though it be, performed its task with perfect efficiency, and conveyed the eight or ten tons' weight over the land, without any material indentation to mark its pressure. The steam-engine was of ten-horse power; but, with a pressure of seventy pounds, is equal to thirteen-horse. This allowed four and one-third horse power to each plough, though it was the opinion of some of the farmers that it would have required five or six horses to have drawn a furrow of the same width and depth on the same land. The engine consumes about ten cwt. of coals per day, when at full work; and the engineer calculated that it would turn over eight acres of such land as that of Wimbish Hall Farm, in the same time.

On the whole, we consider the trial to have been a perfectly successful one, and that it demonstrates, to a certainty, the applicability of steam, as a motive power, to the cultivation of the land. Boydell's machine had already been tried with success at Chelmsford, Thetford, and other places, upon soil both of a kinder and lighter texture, and that had also been previously under proper cultivation. At Thetford, as we understand, with six ploughs, it turned over twenty acres per day, and had the whole power of the engine been applied, it would have completed thirty acres. It only wanted a trial on such soil as that at Wimbish Hall, to complete the series. We consider *that* and the Thetford soil as the two extremes of light and heavy land, after cultivating which with success, no doubt can be entertained of the machine working well upon soils of intermediate texture.

Whatever defects, therefore, the machine may exhibit in this, its infancy, they may scarcely interfere with the question at issue, as they will undoubtedly be rectified as experience points them out. Certainly, we have advanced far enough already to be assured that steam-ploughing is perfectly practicable. And with so many mechanical heads at work on the subject, we confidently expect, ere long, to see a perfect and simplified machine, applicable to all soils, and at least as economical as horse-power.—*London Farmer's Magazine.*

NEW TEA ROSE, SOUVENIR D'ELIZE.*

FROM THE LONDON FLORIST.

THIS new tea rose, which is very correctly represented in our plate for this month, is a seedling raised by M. Marest, Nurseryman, of Paris, and was taken by our artist, Mr. Andrews, from a plant in the nursery of Standish & Noble, of Bagshot. This addition to our list of tea roses is a very desirable and beautiful one, fragrant, and quite hardy, which is an advantage not to be lost sight of by rose growers; for the great failing in the beautiful section of roses to which this belongs, is that they are rarely hardy enough to thrive without some protection during winter, for which reason we do not find them so extensively grown as out-door plants as they otherwise would be, and for which their delicate shades of color and delightful fragrance would render them invaluable.

Standish & Noble pay great attention to the introduction of new roses from

* See Frontispiece.

the continental gardens, and import annually all the best new kinds. They have very kindly furnished us with a select list of a few good new roses, which have been well proved in their nursery, and which will, we doubt not, be very acceptable to rose growers in making additions to their stock.

H. P. Victor Trouillard : flowers of the deepest crimson, foliage very fine, and in every respect a magnificent rose. The entire stock of this variety is in our own (Messrs. Standish & Noble's) hands; we purchased it from the raiser, a gentleman at Angers.

P. M. Madame Edouard Ory; bright carmine; a fine globular flower.

H. P. Madame Masson; large, full flower; clear crimson.

H. P. Emperor Napoleon; very fine, bright crimson; petals, velvet-like.

H. P. General Jacqueminot; vivid red; one of the finest roses yet raised.

H. P. Gloire de France; large and full; crimson shaded.

H. P. Madame Place; lively rose color.

H. P. Colonel de Rougemont; clear carmine; shaded.

H. P. Madame Cambaceres; rose color; a charming flower.

H. P. Souvenir de la Reine d'Angleterre; very large flower; lively rose color.

H. P. Triomphe de l'Exposition; bright, reddish crimson.

H. P. Lord Raglan; centre, bright red; outer petals, purplish.

H. P. Prince Noir; deep crimson; petals, like velvet.

M. P. Salet; bright rose.

B. Gloire de Dijon; pale flesh color; centre, yellowish; large, full flower.

H. P. Jules Margottin; carmine; fine, full flower; very handsome.

P. Nicholas d'Assas; clear rose; very full; finely imbricated.

SOMETHING ABOUT THE FRUIT CONVENTIONS.

BY THE LATE A. J. DOWNING.

I AM, as you know, too much of an "old digger," to attend political meetings, agricultural fairs, or even fruit conventions. I am not only a little stiff in my joints, but it makes me nervous and irritable to see mere spouters and stump-speechifiers having most of the talk to themselves in such places, while the honest, sensible men, who have something to say, sit with their mouths closed.

However, I am fond of fruit; and as it is plain that we are to be a great fruit country, and that orchards, good apples, pears, and peaches, are to be every landholder's possession who cares enough for them to plant the trees, I look with a little more interest than common on these fruit conventions.

There is no doubt at all that a great deal of good will grow out of annual meetings of all the most experienced fruit growers in the country. There is a great deal of knowledge among practical men which never gets into the books; and many a rough hand, who writes his own name as if he were jumping a bog meadow, has picked up certain bits of experience in his lifetime, that are worth, if you can get it out of him by talking, a good many more chapters than are to be found in many current books on the same subject. It is quite natural that, when such men get together, they should set each other agoing, if not by set speeches, at any rate by a chat in the corner; and I have no doubt that as much good is done in this sort of familiar intercourse among brother cultivators as in all others.

But when people go to a national or general convention, they must not take crab-apples and choke pears in their pockets. I mean, in plain English, that they must not go crammed full of sectional feelings and local jealousies. It is very proper and very praiseworthy for me to be fond of my own horses and dogs, my own cornfields and meadows; but it will not do for me to imagine them better than anybody else's, and tell my neighbors so to their faces. All sorts of social

intercourse, societies, associations, and communities, are based upon a spirit of *compromise*; that is, every man gives up something of his own pride and selfishness, in order that the general good may be the gainer by it.

I "*dig*" into this subject a little, because I see the absence of this spirit of compromise appears to have retarded a little the onward march of the fruit growing interest in the convention. I say *appears*, for I don't know that this is really the fact; for I am told that the conventions, both at Buffalo and New York, were both successful and useful things; but some of the journals, and especially the agricultural papers, have fussed and fumbled over the meeting of these conventions, each giving a local coloring to the matter, till they have almost made it appear that harmony is impossible, when, in fact, there is not the least cause for discord.

According to the papers, Western fruit growers can't meet with Eastern fruit growers, and Eastern knowledge and experience are worth nothing in the West. Softly, my friend. This may be all very well for editors, who wish to rally local parties and patronage round their own presses, but it is a *blight-wind* to your interests, depend upon it. Exactly what you want in convention, is to bring all sorts of different experiences together—the Boston man, who coaxes his half dozen Bartlett's in his back yard with guano, till he makes prize specimens, and the Ohio man, who gathers his apples from orchards that cover half a township, and thinks he is a scientific cultivator. It is exactly by getting all these growers together in convention, and comparing notes, and sifting opinions, that you are to get at the real kernel of the matter; for there *is* a kernel to every nut as well as a husk. Those who sit down amicably and crack the nut, are very likely to get at the kernel; those who wrangle and quarrel, are very likely to get only the husk.

Local patriotism is a good thing. I might call it the foundation stone of the national edifice; for it don't need any argument to prove that if a man don't love his own family, neighborhood, and State, he won't love anything rightly. But an edifice is not all foundation; and unless the stones at the bottom of the wall are contented that there should also be stones at the top, it is easy to see there can be no regular house. I have been a little amused with this bubbling-up of local patriotism in various articles in your journal, intended to be merely descriptive of the productions, and the fertility of certain sections of our common country. A writer in Vermont is certain that no part of America can beat the shores of Lake Champlain for apples; another, in Illinois, is equally sure there is no part of the Union equal to his for the same fruit. One pomologist, at Buffalo, feels confident that, all things considered, Buffalo is about the best soil and climate in the Union for all kinds of fruit; while you, in the valley of the Hudson, claim to raise the best of everything, from Denniston's famous Albany plums to Pell's still more famous Newtown Pippins.

Very little hurt will come out of this pleasantry in the right place. It is only chuckling a little over the good things Providence has sent us. But we must not grow too serious about it, and declare that we of the West can beat the East in orchards, and don't care to be dependent on her; or we of the East have got all the science, and can teach all the rest of the nation. There is something to learn all round; and if we have learned all that is to be learned at home, and in our own heaven-blest neighborhood, State, or county, why then there is a great deal more to be learned by watching sharply what cultivation and cultivators have done all over the country. But this kind of learning can only be got at by a little forbearance and courtesy towards others, and not talking too large about our own breed of cattle.

As some of the noisiest of this species of tin-trumpet orators have probably

gone off to California since last season, I suppose it will be found easy for our future fruit conventions to unite in some plan of comfortable, harmonious action for the future. I am the more confident that this will be the case, from the spirit of good-will which I see maintained in your journal, taking the ground that a genuine fraternity of interests is the only means of bringing out all the information in the country.

Certainly it is a pleasant thought, that all the leading fruit growers in the country can meet and fraternize once a year, bringing from all parts of the Union the stores of their experience, and the fruits of their culture, and raising up a pyramid of knowledge for the general good. It is so pleasant a thought, that I will leave it for your readers to revolve in their minds, and see what good may come out of it.

Yours, &c.,

AN OLD DIGGER.

GARDEN VEGETABLES, NO. 9.—CABBAGE AND BORECOLE.

BY WM. CHORLTON.

EVERYBODY who attempts to grow garden vegetables, and has possession of only a "city lot," thinks of planting a portion with Cabbages; but the same everybody does not always cultivate the best varieties, or manage what they do grow in the best manner. Owing to either one or both of these mistakes, they have for their trouble a product which, if not positively unwholesome, is far inferior in quality to what may be obtained. A well-grown and good Cabbage, when rightly cooked, is sweet flavored, tender as marrow, and free from all disagreeable or pungent odor or taste, and in such state, if it be not one of the most nutritious, is certainly a very acceptable kitchen esculent. In any other condition, it is not fit for human food, being partly indigestible, and causing flatulency.

All the varieties of the Cabbage and its allies have been produced from a comparatively worthless plant found growing wild on the sea-shores of England, and some of the other mild parts of Europe. "The *cabbage tribe*," says Loudon, in his usually expressive style, "is, of all the classes of cultivated culinary vegetables, the most ancient as well as the most extensive. The *Brassica oleracea* being extremely liable to sport, or run into varieties and monstrosities, has, in the course of time, become the parent of a numerous race of culinary productions, so very various in their habit and appearance, that to many it may appear not a little extravagant to refer them to the same origin. Besides the different sorts of white and red Cabbage, and savoys which form the leaves into a head, there are various sorts of Borecoles which grow with their leaves loose in the natural way, and there are several kinds of cauliflower and broccoli which form their stalks or flower buds into a head. All of these, with the turnip-rooted Cabbage and the Brussels sprouts, claim a common origin from the single species of *Brassica* above mentioned." Notwithstanding this immense variety, and the extreme liability to sport, the individual sorts may be kept perfectly true to character when not in the neighborhood, or under the influence of other kinds whilst in flower; consequently, where the saving of seed is an object, it will be well to bear this in mind.

As there is no service to be rendered by an extensive list, it is enough, for all practical purposes, to enumerate a few of the best, so as to supply all the requisitions for culinary use. The following, therefore, will secure this:—

Cabbage or Close-headed Varieties. Small Early York.—A very early kind, close-headed, oval-shaped, small size, and good flavor. This and the next mentioned, are the best two for the first early crop. The seed should be sowed from

the middle to the last of September, and the young plants protected through the winter, as advised below. Plant, finally, fifteen inches apart.

Large York.—Larger than the foregoing, equally good, but some two weeks later. Plant out eighteen inches apart.

Enfield Market.—A good and early sort, of very delicate flavor, but not quite so hardy as the two last. Plant eighteen inches asunder.

Early Battersea.—A nice, roundish-headed Cabbage, of fine quality, and very tender when well cooked. Plant eighteen inches apart.

Early Vanack.—This sort does not head as firm as most others, but is very sweet and delicious, and has also the good property of being fit for use whilst quite young. Plant two feet by eighteen inches asunder. These three, last described, may be sown early in February, in cold frames, and, when large enough, planted into the open ground. They will thus succeed the Early York, and continue to head until the savoy take their place in the fall.

Dwarf Green Curled Savoy.—The smallest of the savoy class, and the best, in all respects, for the kitchen. Color, deep green, nearly to the centre of the heart, which is not very compact. Leaves, thick, fleshy, and rugose. If sown in the open ground, from the middle to the last of March, according to latitude, this sort will be ready in September. Plant eighteen inches asunder.

Large Green Globe Savoy.—Larger than the preceding, and produces a much closer head; a good and profitable sort. Sown the middle of April, it will be good from the beginning of October until December. Plant two feet asunder.

Flat Dutch, or Drum-head.—This is the best for winter keeping. It makes a large, solid, and flat head. If sown the last week in May, it will be in use from November, and may be preserved through the winter as follows: When it is apprehended that the winter is going to set in (but not sooner), dig up the whole, leave the roots and stems attached, but pull off any decayed leaves; convey them to a dry spot; place them nearly close together, with the heads downwards, on the ground level, so as to form a bed about five feet wide. Outside of this, all around, sink a trench, and throw the soil taken out of this (after breaking it up well with the spade) amongst them, so as to cover the heads completely, and if the winter be very severe, throw over the top any kind of litter, to keep out the frost. As they may be wanted for use, they may be drawn out by the stalks, and will be found fresh, and as good as when first buried. Where there is the convenience of an open shed for this purpose, it is still better, as the rains and snow of winter are prevented from penetrating the soil; but if put up in a close cellar, the Cabbages are subject to rot, and lose the proper flavor.

Dwarf Red Dutch.—The best of the red or purple kinds. It may be sown in the open ground, in April; afterwards, planted out two feet apart, and will head late in the fall. The plant is of dwarf habit, blackish-crimson in color, and produces a globular, compact, and solid head. The red varieties are generally only used for pickles, although some few people boil them with salt pork, and so make a very savory, but rather dirty-looking mess of food.

Borecole, or Open-headed Sorts. Brussels Sprouts.—This variety is not exactly a Borecole, in the strict meaning of the term, but it may be ranked as such. The stem will rise, in good ground, to the height of four feet, on the top of which is a partially closed, flat crown of incurved, roundish leaves (forming the head), and on the whole length of the stalk below, there are numerous small sprouts (like miniature cabbages), that serve for a second cutting after the top has been removed. The flavor is quite equal to asparagus, but the plant will not bear extreme frost. If sown the beginning of May, and afterwards planted out two feet apart, the tops will be ready for use during the latter part of fall; and after

the heads are used up, the stalks should be dug out, and planted close together in a frame, and protected from the severity of winter, air and light being admitted at all favorable opportunities. In this way, the small *buttons* may be cut as wanted, and will furnish many a good dish, far superior to the common drum-head cabbage.

Green Curled, or Siberian Borecole (Scotch Kale).—A very hardy, good flavored, and beautifully curled variety. The head, when well grown, will spread two feet in diameter. The beginning of May is soon enough to sow the seed, and the plants may finally be put out two feet apart. The tops are ready for use through the winter, and, where the climate is very severe, it is best to lay the plants down in the following manner: Remove the soil (about six inches deep) along one side of a row, and close to the stems; afterwards, bend them over into this excavation; they will then lie sideways, with the roots firm in the ground, and as they grow. In opening the next trench, cover the stalks of the former row with the earth taken out of this, and so on over the whole piece. Throw over the tops of any kind of clean haulm, or straw, to keep off the sun's rays when in a frozen state, and the heads may be cut as wanted.

Purple Borecole.—This is a very hardy sort, of a dark purple color. In other respects, similar to the above, and may be treated in the same manner.

Turnip-rooted Borecole.—The stems of this variety have the peculiar property of swelling out laterally, and forming somewhat the shape of a turnip. All parts of the plant are good as food, excepting the underground roots. It answers the double capacity of turnip and borecole, and ought to be more generally cultivated. Treated as the above—only planted some sixteen inches closer—it will be serviceable at the same time.

All the Cabbage tribe will do tolerably well in almost any kind of soil, but are more profitable, and of much better quality, when liberally supplied with fertilizing material. A fresh and somewhat strong, turfy loam, deeply worked, and well drained, with plenty of barnyard manure, or the next best substitute, decayed leaves or swamp muck mixed with guano, will invariably bring the greatest profits, and give the most satisfaction. When well cared for, there is no crop that pays better for the market gardener, while, on the contrary, there is only a meagre return. So much is the difference, in this respect, that one person will realize over five hundred dollars to the acre, while another will not get more than fifty.

Those kinds which are advised to be sown in September for the first early crop, will require protection in winter. This may be accomplished by pricking out the young plants four inches apart, in a cold frame with glass sashes, or a framing of boards and shutters. Whichever may be used, be careful to give abundance of air at all favorable opportunities, but keep close, and in the dark, at all times when the frost is very intense, and the atmosphere bright and clear. The sun's rays striking immediately upon the frosted plants, causes sudden thaw, and often kills them. When the fall sowing has not been attended to, the seed may be sown early in February, on a slight hotbed, and treated as recommended for cauliflowers in a former article, which see.

The insect which infests the Cabbage, is the *fly*—a minute beetle, that jumps like a flea. It attacks the plants in the seed leaf, and continues its ravages until they attain a considerable size. In hot and dry weather, in the summer time, it is most abundant and destructive, but does little harm during the cool season, or when rain is abundant. The best preventive which I have found out, is a dusting of caustic lime, wood ashes, or a light sprinkling of guano, when the dew is on the leaves. In some poor or long-worked soil, the roots and tops become infested with a *glaucous*, green *Aphis*, which congregates together very numerously. This may be prevented, at the roots, by dipping them in powdered lime before being

planted; and a dusting of the same over the leaves will soon banish them above ground. There is also an ashy-gray caterpillar (the *beet worm* of the Cabbage), that eats through the stems immediately below the surface, and which will sometimes ruin a whole stock of plants when in the most promising condition. In some localities, this is the most formidable pest with which we have to contend, as it works out of sight, and can travel sufficiently under ground to be unperceived. When the plants begin to wilt under the influence of light, examine the base, and it will soon be verified, if the injury is from this cause. If so, where it is applicable, give a good soaking of strong lime-water around the base of each, and where the plot is too large for this method, drop a little lime around the plant, before rain, if possible, that the caustic properties may wash down; for, it is only in such state that it will do any good. The most effectual plan, however, is to apply a liberal dressing of lime when the ground is being worked, which will destroy not only the eggs of this, but of many other insects, if they be deposited there. Few people seem to be aware of the good effects of lime, applied in this way, for ridding the ground of insects; but remember that it should be turned in immediately after being spread, or it soon becomes neutralized, and of no service for this purpose.

STRAWBERRIES.

BY THOMAS MEEHAN, GERMANTOWN, PA.

YOUR correspondent, "C. Legg, M. D.," has a note in your July number, in reference to Longworth's Prolific Strawberry, in which he hesitates whether or not "to accuse nurserymen of dishonesty and stupidity," because plants he bought for the above from the Clifton Nurseries, bore all pistillate flowers. I can lend him a circumstance to aid him in deciding. During the height of the "strawberry war," my friend, Mr. Longworth, offered to give me a handsome sum if I could convince him that a hermaphrodite variety could be made to produce pistillate flowers, and suggested that I should take his "Prolific" for the experiment, as it was a kind he could readily distinguish by the foliage. I did so, and took plants procured directly from his own garden, to insure their accuracy, and on which, by the by, our Fruit Committee founded their report to our Society, after an examination of these very plants as the veritable "Prolific." To avoid the possibility of mistakes, I potted the plants myself, and attended to them, daily, till they flowered, which many of them did, in pistillate form. I sent specimens to Mr. Longworth at once—plant, flowers, and all—and received word, in reply, that a committee of the Society had pronounced it *not to be the true Prolific*. Since this, I have taken very little part in the "strawberry question," considering that my reputation for accuracy was in danger of being injuriously trifled with. Now that the heat of controversy has passed away, it is gratifying to me to find the views I was so bitterly assailed for maintaining so extensively, strengthening themselves. If your correspondent is desirous of understanding all the bearings of this subject, I would recommend to his perusal a paper on the "strawberry question," by Jas. W. Ward, Esq., inserted in the *Transactions* of the Cincinnati Horticultural Society for 1854, which, though written by the coadjutor of one of my most strenuous opponents, Dr. Warder, contains "my sentiments exactly."

In case your correspondent should not be able to obtain the perusal of this document entire, I beg permission to make a small extract for his information:—

"Now, these characters (stamens and pistils in the same flower) of *Fragaria* (the Strawberry) are normal and positive, though not constant; they are essential

to the genus, not permanent in the individual. * * Various causes (unknown to science) are constantly occurring to produce imperfections and modifications in the several parts of plants; striking variations from normal conditions are frequently, indeed, so often repeated, as to *assume the appearance* of permanent characters. * * Transformation, as well as the entire suppression of pistils, is also of frequent occurrence. Pistils (says Balfour) are sometimes changed to stamens, and bear pollen. * * Cultivators and other observers of variations from the normal condition in the Strawberry blossom, have described the plant itself as therefore dioecious. These descriptions convey a notion entirely at variance with all previous knowledge of the characters of the genus, and not only so, but really contrary to their own observations of the plant in its natural state. It is certain, beyond controversy, that the natural character of the perfect Strawberry blossom is hermaphrodite. Any departure from this original typical form must be regarded as casual degeneracies, and BY NO MEANS AS CONSTANT. The more recent advocates of the theory, have claimed for it too much; that is, they have asserted that these abnormalities are fixed and permanent, natural and transmissible."

When the above was written, the author was evidently opposing some one whom he believed to deny the existence of such a thing as a Strawberry blossom with imperfect sexual characters. But as no such persons "came out" in the controversy, it is gratifying to find that, with the exception of Mr. Longworth and the "few who have claimed too much," both "Eastern cultivators" and "Cincinnati" are of the same mind after all.

INSECTS, NO. 2.—ILLUSTRATED.

BY J. STAUFFER, MOUNT JOY, PA.

THOUGH the insects under consideration in this article have been well described and illustrated in the Agricultural Patent Office *Report* for 1854, I nevertheless copy from my own drawings and observations, for the benefit of those of your readers who may not be in possession of said report.

Cut No. 1 represents the *Ægeria exitiosa* of *Say*, or Peach-tree Borer.

The family *Ægeridæ*, or the Sesiadæ of *Latreille*, are interesting, both on account of the difficulties connected with their natural situation among Lepidopterous tribes, and their great resemblance to various Hymenoptera and Diptera, owing to the elongate form of the body, and the transparency of the wings.

In their habits and transformations, they approach the *Cossus* among the *Hepialidæ*, while the wings and antennæ have a close analogy to some of the clear-winged *Sphingidæ*.

About the 16th of July, by examining the gummy exudation at the base of peach-trees, you will often find an oblong, oval body like fine tan; this is the cocoon, made from the *débris* of the bark, which incloses the chrysalis and young *Ægeria*. Place this cocoon in a box—not too close—and, in about nine days thereafter, you may witness, as I have, the mode of egress from its double confinement. The chrysalis, or shell, surrounding the insect, is furnished with transverse rows of short, somewhat curved teeth on the abdominal segments, by means of which it wriggles its body forward (screw fashion) till two-thirds out of the cocoon, when it speedily splits into three segments, through which opening the insect escapes. Moist and rather feeble at first, in less than five minutes it acquires all its strength and activity, and is then truly beautiful to behold, in its pristine vigor and perfection. The female (A) has the anterior wings covered with a velvety, blue-black coat, as also its body, except a broad, yellow ring. The male

(B) has both pair of wings transparent, yellow markings on the thorax, and collar and narrow rings on the abdomen. Both are of a wasp-like appearance. To witness the transformation, affords food for contemplation, and imparts a useful lesson.

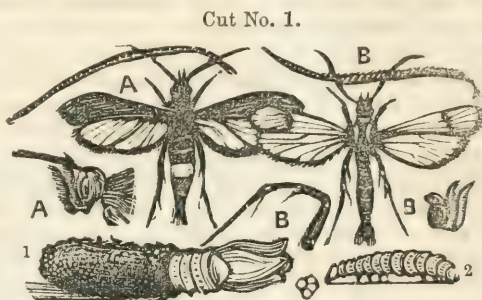
The larva of this beautiful but pernicious insect, is a naked grub, found imbedded in the trunk and roots of the peach and other allied trees, which it often girdles and destroys; hence its specific name *exitiosa*, given by Mr. Say, who first described it in Vol. III. *Journ. Acad. Nat. Sci.*, Philadelphia. It

has six pectoral, eight ventral, and two anal feet; sixteen altogether. Fig. 1 is the cocoon and chrysalis after the insect has made its exit. Fig. 2, the grub, or larva. The spurred tiffia, and male (B) and female (A) heads, are also figured.

Dr. Harris, in his valuable "Treatise on the Insects of New England injurious to Vegetation," recommends the following remedy:—

"Remove the earth around the base of the tree; crush and destroy the cocoons and borers which may be found in it and under the bark; cover the wounded parts with the common clay composition, and surround the trunk with a strip of sheathing paper eight or nine inches wide, which should extend two inches below the level of the soil, and be secured with strings of matting above. Fresh mortar should then be placed around the root, so as to confine the paper, and prevent access beneath it; and the remaining cavity may be filled with new or unexhausted loam. The operation should be performed in the spring, or during the month of June. In winter, the strings may be removed, and, the following spring, the trees should again be examined for any borers that may have escaped search before, and the protecting applications should be renewed." Coal-ashes, placed around the trunks, in the cavities, instead of mortar, is found useful, and also recommended.

On examining the gummy exudation at the base of a young peach-tree, I found maggot-like white worms imbedded in the bark. Fig. 1, natural size. Under the lens, Fig. 2. It has a pearly-white, transparent color; along the back, an opaque, white line. The first three rings have faint ochrous markings; the head is of a long, rounded, cone-like shape; jaws, short, but strong; no signs of legs. There is a small black bug often found, in spring, among the roots of peach and other fruit-trees; a species of *Saperda*, perhaps. The larvæ are also borers, but I am not certain that the above is the larva, from want of sufficient evidence.



Aegeria exitiosa.—Say.



TREATMENT OF THE ACHIMENES.

BY RICHARD REES, GARDENER TO LEWIS ELLSWORTH & CO., NAPIERSVILLE, ILL.

I WOULD offer a few remarks on the cultivation of this most beautiful plant (the Achimenes), of which there are many sorts, viz: *Patens coccinea*, *Rosea grandiflora*, *Longiflora*, &c. To grow them to perfection, it will be necessary to prepare a place suitable for their reception; those who have not the convenience of a hot-

house, may prepare a hotbed for a one-light frame, or more, with a temperature of not less than 60°. Make a compost of one-half sand, and the other half leaf mould, with a small quantity of peat mixed together; let the pots be well drained with charcoal; fill the pots within two inches of the top with compost; place the roots around the sides of the pot (one inch apart), and then cover them with one inch of soil. The bed being ready, place the pots on the surface, or, if there is no danger of the bed being too hot, plunge them up to their rims; give them a gentle watering with a fine watering-pot, put on your lights, and, in a few days, the plants will be up. When the pots are well filled with roots, they must be potted off singly, with the same drainage as above mentioned; keep up a regular degree of heat by the application of hot dung lining a long time, shifting your plants, as often as they need it, into larger pots; syringe them once a day, and shade them immediately, if necessary, from the scorching sun, as shade, moisture, and heat, are the most essential points required to bring this most beautiful specimen of the tropics to perfection. With this treatment, they will show signs of flowering very early, at which time they may be removed to the greenhouse or window, there to mingle with other plants, and enjoy the sun and air freely.

THE ATMOSPHERE.

BY JOHN WATSON, GARDENER, WEST FARMS, WEST CHESTER CO., N. Y.

DEAR SIR: I was delighted with the communication of your friend "S," in the July number, and I trust that no consideration will deter him from giving a further account of his experience, no matter how anomalous the facts may appear. Such articles must be interesting to all, and especially so to the young gardener, tending, as they do, to awaken a spirit of inquiry, and to prevent those early-formed prejudices so difficult to eradicate, and so inimical to the true interests of horticulture. But, *apropos* to the remarks of your correspondent, and in support of his opinion, that the atmosphere is the storehouse from which plants are fed, allow me to record a very striking circumstance with which I have long been familiar.

An old lady of my acquaintance, in Scotland, is possessed of a relic in the shape of a scarlet geranium, which has been the pride of her parlor window for upwards of thirty years! Every day during that long period, it has received its customary cup of cold spring water, and every summer, without further care, it blooms, and *has* bloomed, most abundantly. But stranger still, and more to the point, is the fact known to all the neighbors, and attested to by the lady herself, that the plant of which I write has stood in the same pot and in the same soil! ever since it came into her possession. In childhood, I have stood at the old lady's window, and wondered how the shining beauty could live, and grow, and blossom, in the hard, dry earth, that seemed to be part and parcel of the same antique vessel which contained it; and since I have become a gardener, the memory of the old geranium has done much to mould my ideas of the natural requirements of plants, and to convince me that however important the constituents of the soil may be, they are not, by any means, "the chief good."

With trifling exceptions, one plain mixture of porous earth is all I have ever used in potting, varying it simply by adding or withholding manure according as the plant is or is not a rapid grower, and I find it to answer the purpose completely.

Trusting that some of our experienced and "knowing ones" will no longer hide their candle under a bushel, but, like friend "S," come forth cheerfully to aid in the world's progress, I am, &c.

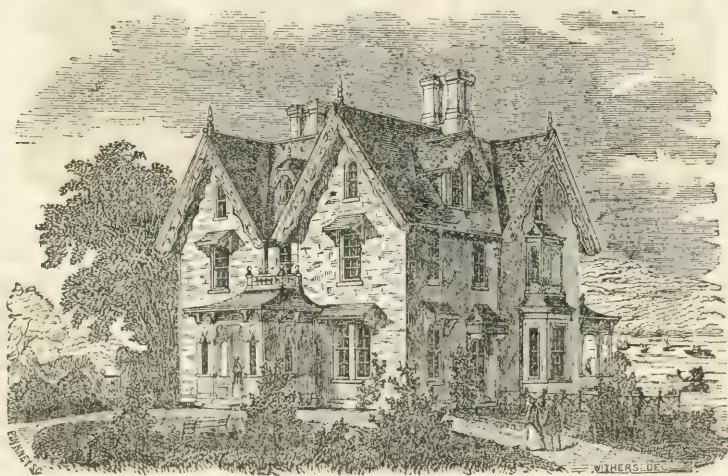
[We shall be glad to hear from our correspondent again.—ED.]

R E V I E W .

Villas and Cottages. A Series of Designs, prepared for Execution in the United States. By CALVERT VAUX, Architect (late Downing & Vaux), New York, 1857. Second notice.

HAVING, last month, given a favorable opinion of this elaborate work, we proceed to select from its illustrations two drawings of houses, which appear to be about a fair exhibition of its contents in this particular. The first, is

Design No. 16.—Picturesque Square House.



Perspective View.

"This house, which is the property of Mr. David Moore, of Newburgh, was planned for another party, in the first instance, and was partly executed with the idea that it was to be very simply and economically finished. It was commenced without any intention of constructing the dormer-windows, the projecting hoods, or the covered balcony over the lower bay—all of which, as may be seen on reference to the sketch, help materially to give individuality and completeness to the design. The main outline of the plan is a simple parallelogram, without any break in the walls, and the study may therefore be interesting to those who like a generally picturesque effect in a house, but who wish to avoid irregularities in the internal arrangement, or uneconomical projections in carrying up the brick-work. During the progress of the work the building changed hands, and came into the possession of its present owner, Mr. Moore, and, in accordance with his instructions, the design was improved in many important points. The additions already referred to were made, another bay-window was introduced, the roof to the veranda, also, was curved, and finished with a balustrade."

Further description of interest will give a more correct impression of the interior, but our space does not admit the whole. The cost without mantles, range, or grates, was about \$12,000.

Design No. 12.—A Symmetrical Country House.



Perspective View.

“This design was prepared and executed for Mr. W. L. Findlay, in the vicinity of Newburgh, with the exception of the ventilating turret, which was a suggestion made by me at the time the building was erected. This prominent feature has not, however, yet been carried into execution; still, it really forms an integral part of the design, and as the composition would seem to be somewhat unfairly represented without it, it is introduced in the sketch. It can be added, at any time, for \$70 or \$80. There were some special requirements made by the proprietor, in this instance, that are, perhaps, with some readers, calculated to give additional interest to this plan. The house, during the summer months, was to be, to all intents and purposes, a Southern house; ample circulation of air was to be provided, with plenty of veranda space; and a cool, open arrangement of rooms was especially asked for, as the house would be required to accommodate agreeably many residents and visitors during the hot weather. On the other hand, the plan was to be so arranged that, during the colder part of the year, the house should be suited to the changed needs of its fewer inmates; for it was the intention of Mr. Findlay to occupy his residence all the year round. A completely fitted up and somewhat decorative principal floor, was also a point of importance with the proprietor, who did not propose to expend any large amount on his house, and whose instructions were for rooms of but moderate size, and for a basement kitchen, so as to avoid the extra expense of a kitchen wing. In the plan, it will be observed that a brick porch, connecting two verandas, and forming with them one continuous piazza, opens on to the principal hall, which is 14 by 18. This hall communicates, by sliding doors, with the drawing-room on one side, and the dining-room on the other. Each of these rooms has a bay-window at the end opposite the hall entrance, and thus, when the doors are thrown open

in summer, an agreeable vista effect is produced, and a free circulation of air is provided for. The upper end of the hall is traversed by a light, ornamental, open, arched screen, which is introduced so as to give a definite character to a passage-way, or vestibule, as shown on the plan. Beyond this arched screen is an entrance, with sliding-doors, to the library, and at the opposite end of the latter room is a large, square bay-window, with open screen-work and seat in connection with it. Thus another extensive vista is obtained, in summer evenings, through the house in this direction, and when the doors are open, any one sitting in the library bay can see the river view framed, as it were, in the outer arch of the porch. A little boudoir, or ladies' morning-room, with a private veranda entirely shaded during the whole of the forenoon, is planned close to this library and to the drawing-room, and a similar space is inclosed on the opposite side of the house for water-closet and pantry, which has a lift in connection with the floor below. It will thus be seen, by an inspection of the plan, that it would hardly be possible to have a more airy and open arrangement for summer; for, standing in the hall when the rooms are thrown open, one can see clear through the house, north, south, east, and west; and the porch, hall, vestibule, library, dining-room, drawing-room, and veranda, are converted, as it were, into one connected apartment. All idea of the moderate size of the single-rooms (the largest of which is but 18 by 20), is thus done away with, and the house necessarily seems roomy, open, and ample in its accommodation.

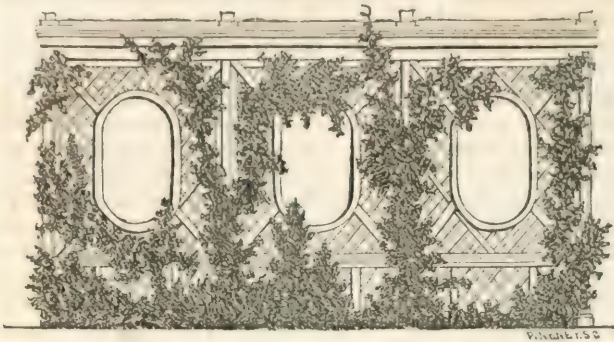
"So much for the summer arrangement. In winter, on the other hand, the first step should be to inclose the arches of the porch with glazed frames, and the next, to close the sliding doors for the season, entering, in future, each of the separate rooms from the ordinary-sized doors which are provided to each of the principal apartments for this purpose; the library being approached through a book-case door, already illustrated and described in the opening chapter. The furnace may then be started, and the house will be found to be a warm winter house, suited to a severe climate. All the thorough draughts are shut off, and the separate rooms are small, readily warmed, and easy of access from the chambers. The bedroom floor in this house contains an upper hall, lighted by a skylight, four full-sized bedrooms, a dressing-room, and a bath-room, with water-closet. The attic contains two spare bedrooms, shut off entirely from the apartments for domestics, on the same floor, and it also provides an open hall, two servants' bedrooms, a garret, and lumber-room.

"In the basement will be found the kitchen, wash-room, milk-room, furnace-room, and cellars. The carpenter's and mason's contracts for this house were taken at \$7,230, and the painter's, and plumber's, and decorator's accounts, with some ornamental ceilings, and other carpenter's work inside the house, not contemplated in the original contract, made the amount expended, and on which five per cent. (architect's commission) was charged, \$9,326 51."

Design for a partially inclosed Veranda.—The work is very prettily embellished with vignettes and tail-pieces appropriate to the topics discussed. We do not know that we can select a better one than the following:—

"The vignette shows a design for partially inclosing a veranda which was made for J. J. Monell, Esq. The country house to which it belongs is planned on a side hill overlooking a picturesque glen; and the kitchen in the basement being, in consequence, entirely out of ground in the rear facing the garden, these offices were somewhat too freely exposed to view from the ornamental grounds in the vicinity of the house. The simple plan here sketched was, therefore, made and carried out; and as the vines (already grown over the old supporting-posts) were trained to the new trellis-work, and showed to even better advantage than before,

no harm was done in this respect, while a greater degree of privacy was certainly arrived at with but little sacrifice of light. The sketch is introduced as similar



Design for a partially inclosed Veranda.

cases often occur, and a little ingenuity can readily arrange new varieties of pattern to embody the same general idea."

With these illustrations to complete our notice, we conclude our remarks on a work which exhibits much careful study and thought, and one that cannot fail to do credit to the author, who will be the means of embellishing many an American site.

DR. GRAY'S FIRST LESSONS IN BOTANY.—The London *Athenaeum*, which never spares a fling at American authorship when it dares to be caustic, speaks in the highest terms of the author as "one of the most accomplished and sensible cultivators of botanical science now living," and "the most distinguished botanist of the United States." Of the book: "We cordially recommend these *Lessons in Botany* as the best work with which we are acquainted for the use of those who are commencing the study of that charming science."

TREES, AND THEIR USES.—That dear old periodical, the *North American Review*, astonishes the world, every three or four months, with news of an extraordinary kind, in which all that is known is ignored. We beg to place side by side the following:—

From the *North American Review*, July, 1857.

"The translation of Michaux's great work has quite disappeared. Nuttall's valuable *Supplement to Michaux* (a most curious monument of persevering zeal and enterprise) is now exceedingly rare, &c. &c. &c."

From the *Horticulturist*, September, 1857.

The translation of Michaux's great work has just reached its fourth American edition. Nuttall's valuable *Supplement* is now published with Michaux, and sells as fast as it can be manufactured.

A SCOTTISH PANSY SOCIETY holds regular exhibitions, and gives premiums with all the gravity of more important concerns. Pot culture under glass is the most certain means of bringing out the many fine points of the Pansy; smoothness is one great *desideratum*, size being the last point. Average-sized bloom, colors bright, and well defined, of perfect shape, edge, and smoothness, are the considerations with the judges. A Royal National Tulip Show is also an English attraction. Four thousand five hundred dollars were distributed as prizes at the late Crystal Palace Grand Floral Exhibition.



FOREIGN NOTICES.

MOISTURE FOR ORCHIDACEOUS PLANTS.—The *Gardener's Chronicle* notices the following curious speculation: "We observe in a late number of the *Revue Horticole*, a statement by Mons. Duchartre that Orchidaceous epiphytes are incapable of feeding upon moisture suspended in the air as invisible vapor. He says that experiment has satisfied him that this common idea is completely erroneous, and that they feed wholly upon the mere water which, in a fluid state, comes in contact with their leaves and roots. A damp atmosphere, according to this observer, furnishes absolutely nothing in the shape of food, and can have no effect upon them, except diminishing perspiration, which might be excessive if the air in which they live were to become too dry.

"M. Duchartre asserts that copious watering and syringing, especially upon the roots, are what such orchids want. In their natural situations, they receive it abundantly in the form of rain; and in our houses they must also have it, if they are to thrive. We are unacquainted with the detailed experiments which have led to these conclusions, in the justice of which we are not at present prepared to acquiesce. The statement is, however, important, and cultivators should look to it. Maybe it throws some light upon the mysterious disease that has appeared in our orchid houses of late. While, however, we pause to hear more of M. Duchartre, we admit at once that the skin of orchids is much in need of very careful examination. What, for example, are the innumerable papillæ (one to each cell) which characterize the upper surface of the leaves of such plants as phalænopsis?"

HYBRIDIZING. LORD BACON.—There is no evidence that hybridization (or crossing the sexes of plants of the same genera together, to produce new varieties in the progeny) was known to the nations of antiquity, although grafting and inarching was commonly known and practised, by the Romans at least. On the contrary, that great philosopher, Lord Bacon, informs us that the "compounding or mixture of kinds of plants is not found out, which, nevertheless, if it be possible, is more at command than that of living creatures; wherefore, it was one of the *most notable experiments touching plants to find it out*, for so you may yet have great variety of *new fruits and flowers yet unknown*." Quite right, as we of this generation know full well; and we see how clearly he foresaw (two hundred and fifty years ago) the results which would follow the "notable experiments" he suggested; "for," added he, "grafting does it not; that mendeth the fruit, or doubleth the flowers, but it hath not the power to make a *new kind*, for the scion overruleth the stock."

A FEW THINGS WHICH EVERYBODY OUGHT TO KNOW.—A quart of peas, sown in a shallow box fifteen inches wide by eighteen long, at any time of the year, and cut off when about four or five inches high, and boiled like spinach, with a little salt, makes a most delicious dish. The tops of Jerusalem artichokes, cut off about six inches long, and boiled like other greens, make a capital dish, which partakes, in some degree, of the flavor of the root. Boiled water-cress also makes a wholesome and delicious dish. It must not, however, be over-boiled; for im-

paired constitutions, it is invaluable. In April and May, late potatoes should always be peeled some ten or twelve hours, and steeped in cold spring water before they are cooked. This is a great improvement; it makes the potato nearly as good as those dug in October. The proper way to make a cup of good tea, is a matter of some importance. The plan which I have practised for these twelve months is this: The tea-pot is at once filled up with boiling water; then the tea is put into the pot, and is allowed to stand for five minutes before it is used; the leaves gradually absorb the water, and as gradually sink to the bottom. The result is, that the tea leaves are not scalded, as they are when boiling water is poured over them, and you get all the true flavor of the tea. In truth, much less tea is required in this way than under the old and common practice.—*James Cuthill, London.*

MR. BATEMAN'S idea—doubtless the only one—of a pinetum is a most irregular series of groups of the same or kindred species of conifers; and he has placed them on mounds, for the double purpose of rendering these groups more picturesque, and of bringing the beautiful forms of many of the sorts between the spectator and the sky, without any intervening background. The great variety in the shape and height of the mounds, likewise affords the best facilities for securing the precise amount of exposure, shelter, shade, moisture, or dryness, which any particular species may demand. And the carpet of Heather, by its color, and by its naturalness, seems to transfer the plants at once, in appearance, to their native hills, while, unlike bare earth or grass, it requires no labor or attention whatever to preserve it in good order.

Comparatively recent as is the formation of this pinetum, and though the plants are none of them much more than ten or twelve feet high, the difference between the system of grouping here pursued, and the common method of spotting about the plants at comparatively regular intervals on a flat surface, is most conspicuous and satisfying. Nothing of the kind could be more beautiful than the groups of deodars and araucarias (at least a dozen plants in each group) which burst into view as the pinetum walk is entered. Occupying a slope to the west, and assuming the greatest diversity of character, with some of them standing out clear against the sky, and others (especially the deodars) being backed up by the mounds themselves, or by yew-trees planted behind them, they present themselves, even to those most conversant with their forms, in many novel aspects and combinations. So striking, indeed, is the difference of habit which the araucarias assume, that some fanciful name, indicative of their character, has been applied to each individual plant.—*Cottage Gardener.*

MELONS in Persia are treated with the greatest attention. In the best gardens, they are placed on tiles, and turned round several times a day, in order that each side may ripen equally in the heat of the sun. The result is, that they probably excel in flavor any melons in the world. They are esteemed a great delicacy in Persia, and are sent as presents not only to the cities of the interior, but even to Bagdad and the holy places of Kerbela and Nedjef in Arabia. Unlike the Turks, who dine from off a circular tray raised upon a stool, and upon which one dish at a time is served, the Persians place all their dishes together upon a cloth spread over the floor. Those who eat crouch around upon their hams (a position particularly disagreeable and inconvenient), painful, at all times, to Europeans with tight "continuations," but unbearably so when accompanied by the process of lifting rice with one's fingers to one's mouth. At great festivals, the floor of the room is frequently covered with dishes, and the servants thread their way,

generally with naked feet, through a forest of pillaws, soups, sweets, bowls of sour milk, sherbets, and candlesticks, which they do with considerable skill, waiting upon the guests without treading in the plates, or sweeping away their contents with their long flowing garments. During the feast, the company are entertained by the shrill and discordant notes of boys, who sing alternately verses from the poets, and are accompanied by a musical instrument consisting of many strings, struck with a hammer. Wine and ardent spirits are always taken by Persians and Turks before dinner, and not during or after a meal. It is considered more wholesome and agreeable to get drunk before eating, and an Eastern never drinks without the intention of doing so to excess. He cannot understand the habit of taking wine in small quantities as a simple stimulant. There is one invariable accompaniment to all Persian dinners: a bowl of sugar and water, which is drunk with a wooden spoon, frequently of very elegant shape, and of such extreme delicacy, that, when used, it bends almost double.

M. PEPIN, of the Garden of Plants, has a note on the effects of sulphur on camellias, and other kinds of house plants, to show that, though sulphur may be good for vines and peaches, there is danger in using it for other plants in the same manner. He mentions an instance in which the gardener of a gentleman residing in Paris had applied it, in the month of October, to young camellias covered with insects, thinking, as it is stated, that by this plan he would get rid of them in the same way as those on the peaches treated for blight in the open ground. But as the conditions were very different, the results were not the same. It appears that the camellias in question, about fifty in number, were from three to six feet high, planted out in clumps *en espaliers*; some of them only were in pots. Those in the clumps were trained in the pyramidal form, and the others in the fan form along the walls of the house. The borders of the clumps were filled with miscellaneous plants, having a margin of *Lycopodium Braziliense*. Shelves running round the house were filled in the same way.

The sulphur was applied in the evening, and, next morning, the ground was covered with camellia buds. Some days after, the young branches were affected seriously, and, subsequently, the whole of the wood down to the very roots, so that, with the exception of *Donkelaerii*, *mutabilis*, *Chandlerii*, and *elegans*, the whole of the camellias died. Among the ligneous plants saved, the principal are a *Ficus elastica*, about seven feet high; the buds and terminal leaves, however, have been much affected. With this were a *Dracana australis*, and some varieties of *Epiphyllum Ackermanni*. It appears that the lycopodium which formed the margin, twenty-five varieties of azalea in pots, a collection of heaths, *Habrothamnus elegans*, *Clematis japonica*, *Passiflora Belotii*, *Daphne indica*, and more than a hundred other plants of similar kinds, have been destroyed by the sulphur-vapor which was produced, during the night, in the house.

M. Pepin observes that, as is well known, sulphur is used, in many cases, for plants in stoves and greenhouses; but it is necessary to understand the nature of the insect, and the plants to be operated on. Great caution must be used, also, as to the quantity of sulphur proper to be employed, as well as the particular parts to be operated on. It must not be supposed that sulphur may be used as freely in a house as in the open ground.

THE MOUTAN PÆONIES.—When Mr. Fortune visited China, on the service of the Horticultural Society, the acquisition of new Moutans was one of the first objects to which he attended. In his *Wanderings*, he mentions the beauty of the varieties seen by him at Shanghai; how he heard of yellow, and purple, and blue

sorts; and at one time saw lilacs and purples, some nearly black; at another, dark purples, lilacs, and deep red. Afterwards, having discovered that these things came from a place only six or eight miles from Shanghai, Mr. Fortune tells us that he proceeded there daily during the time the different plants were coming into bloom, and secured some most striking and beautiful kinds. The name *Moutan* seems to be an alteration of the word *Botan*, the usual name of these plants in Japan, as we are told by Kämpfer. The Japanese seem to think the *Moutan* and *Pæony* distinct genera. It is to be suspected that more species than one is comprehended under the common name of Tree *Pæony*, even although, as is probable, the *Poppy Moutan* (*P. papaveracea*) should be a mere variety of the common kind; for some of the Japanese kinds are said to form rapidly a woody stem eight or ten feet high—a stature which the common *Moutans* would only gain after many years in even favorable climates. The Chinese and Japanese are said to reckon their varieties of *Moutans* by hundreds, as we do our roses. It is not improbable (now that the single and very slightly double kinds are beginning to establish themselves in Europe), that we, too, shall have the same dominion over them as over camellias and chrysanthemums.

THE SWEET WILLIAM.—This is a very sweet flower, and carries an immense truss of bloom; it is a favorite of mine, but I have sought in vain to obtain a plant, or even a pinch of seed of Mr. Hunt's far-famed varieties. So anxious was I to see the flowers so highly extolled, that I used the freedom of writing Mr. H., and requested him to favor me, for love or money, with a pinch of his fine seed; but he took no notice of my humble request, which I thought very strange indeed of an Englishman, who, like the French, are so far-famed for frankness and politeness. I had, last season, a seedling—a very fine dark flower, with every good property, which I crossed with one of a much brighter hue (also a seedling), and to perform the cross, I watched each flower as it opened (the truss being covered with glass), and extracted very gently, with my pincers, all the little trembling anthers, then examined the pollen flower for farina, and, when ripe, took the pip entirely off, and extracted the stigma, and shook it over the pistil of the mother plant; and so, day by day, with all the flowers I cross-bred last season. I have done my best in offering to the young florist every iota of my practice, and if it should be the means of improving men and floriculture, for time and trouble I shall be well remunerated.—J. C.

CULTURE OF THE ROSE.—People now begin to be their own rose makers. A few stocks set them up. These are to be procured, at the right season, at any of the nurseries, and when their roots are nicely pruned, and they are planted in the ground, the same as established trees would be, they have nothing to do but keep them watered now and then, until they grow, when all the side shoots down the stem must be rubbed off, except the strongest two near the top, or the strongest near the top of the growing part; and having selected the one that is strongest, cut down the stock to an inch above it, that all the strength may be thrown into that and the nearest one below it; for it is on this one strong shoot that we must bud, and that will be ready about the beginning of July. If we have any roses in the garden that are inferior, and we wish to change them for better sorts, all the head should be cut away, but two or three of the strongest shoots, close to the stock. These will grow, by the end of July, strong enough to bud upon, and may be treated just the same as a stock would be treated; but let no side shoots, nor any other shoots grow at all, and when the new growth shows for bloom, pull off the buds, and let none go to flower.—*Midland Florist*.

EDITOR'S TABLE.

THE COMING AUTUMN.—With a good harvest gathered, our spirited gardeners are looking forward to the ripening of fruits, and the consequent conventions, exhibitions, and shows, to test the excellence of our products no less than the ability, and talent, and industry of the growers. The officers, &c., of the various societies throughout the country, will confer a favor on our readers by forwarding to the Editor of the *Horticulturist* all proceedings and reports at as early a day as possible.

The *Horticulturist* is looked to for reports of all useful novelties, and has, so far, not disappointed expectation, as is proved by its extending circulation, and the most unequivocal marks of approbation from all quarters of the Union.

THE SEASON.—The period of active industry among nurserymen and florists rapidly approaches. Already the note of preparation is heard in the flow of advertisements, which enhance the interest of our publication, and which begin to crowd upon the printer from every point of the compass. We have no objection to make to those who read these evidences of business tact before they peruse the regular columns of the *Horticulturist*, for they tell the story of what is going on in the busy gardens of those who minister so largely to the pleasure of the public, by assisting to adorn our rural homes. As usual at this season, the advertisements exhibit the commendable industry of the advertisers, and detail their various specialities. It would be well to remember that no one can do a large business who has not something to sell; the season is coming (or come) to collect the seeds for another year, and all who neglect this duty, enhance the value of what their more careful compeers accomplish.

As a season, this has, generally, been a bountiful one. Had it not been thus, there is no telling where our extravagance and reckless importations of gew-gaws might have landed our ticklish banking system.

Of fruit, we have a good report to make. Peaches, if not abundant, will prove an average crop; pears never were more abundant; apples, not so plenty. The crop of potatoes gives fair promises, and, it may be hoped enough food will be laid up for the winter in every section of the country, to prevent the cry of famine heard in some places the past winter.

The season has been particularly propitious to the lovers of fine lawns; successive rains, too, have made weeds a prominent object in too many places; but, on the whole, we meet nothing but smiling faces among gardeners and farmers.

ANOTHER STEP.—The jurors at a recent cattle show at Poissy (France) made another step towards testing the value of the animals; after the weight had been ascertained, the jury were entertained at a dinner, where portions of the various prize animals were served up, to test which breeds give the best quality of meat; the time taken to get it ready, the weight before and after cooking, were all observed with minuteness. It was found that the flesh of certain breeds was better adapted to boiling, and others for roasting. There was a trial

of soups, and a trial of roast pork, roast mutton, roast beef. Between each trial, the jurors ate fish, fowls, sweet breads, and vegetables, so that history will be apt to record that the judges had rather a large dinner. It seems to us a sensible proceeding thus to enter into the facts as regards the utility and nourishing qualities rather than the mere fatness; and to such trials must our great fairs come at last.

HOVEY'S *Magazine* for August, contains an excellent article on the gathering and keeping of early pears, in which it is said that no summer pear should be allowed to ripen on the tree. The fruit, as soon as it has attained its growth, should be picked; this may be ascertained by the change which takes place in the appearance of the fruit. Some of the defective specimens will turn yellow and drop, while the others will assume a smoother and paler surface: the coloring on the sunny side will be brighter, and the stem will become swollen, particularly at the junction with the tree. These indicate that the period of maturity is approaching, and the fruit may be gathered and ripened.

NATIVE GRAPE-VINES.—The Commissioner of Patents has sent an agent to Arkansas and Texas, and the neighboring Territories, to select cuttings of the native grape-vines, and gather information relative to their adaptation to the soil and climate of other parts of the United States.

ACCRUATE EXPERIMENTS have been made in Illinois, to test the comparative value of timothy and clover hay. The experiments were carried on for two years, and the results were that the clover hay uniformly yielded ten per cent. more milk than the timothy.

SILK FROM A NEW SOURCE.—It is seriously asserted in the *Trieste Zeitung*, that M. Cavezzali, of Lodi, has succeeded in procuring silk from mulberry leaves. The silkworm is henceforth to remain undisturbed in what Gibbon calls its "golden tomb;" and that may prove sober fact which Waller wrote as a flight of fancy: that "without the worm, in Persian silks we shine."

A NEW INVENTION has been brought forward at Marseilles, France, for preparing flour by a chemical process, a great deal finer than by grinding. A sample of the flour has been sent to the Academy of Sciences in Paris, to report upon.

THE State of Ohio counts among her honors that she opened the first female college; introduced, or, rather, created the culture of the grape in America; discovered the true method of tanning, magnetically, the ascension and declension of stars; invented the steam fire-engine; and gave birth to a noble series of painters, poets, sculptors, and men of science.

SULPHUR.—A correspondent calls attention to the subject of the use of sulphur for the cure of the European vine disease, and requests the publication of the following from the *London Times*, just received: "The French Society *d'Encouragement pour l'Industrie Nationale* has reported to the French Government that the prize of 10,000*fr.* offered by the French Government in conjunction with the Society, is jointly due, 1st, to Mr. Kyle, an English horticulturist, who first applied sulphur to this purpose in 1848; 2d, to M. Duchartre, Professor of Agronomy at Versailles, who first introduced the method in France; 3d, to M. Gontier, a horticulturist at Montrouge, near Paris, who was the first to apply it on a large scale; and 4th, to M. Henry Mares, Secretary to the Society of Agriculture of the Department of the Hérault, who, by numerous experiments, has proved the superiority of sulphur over all other agents previously tried, and pointed out the surest and most economical way

of applying it. Moreover, that M. Marès has won the prize of 3,000f. proposed by the Society for the best essay on the nature of the malady which has attacked the vine for so many years. The report concludes with proposing prizes of encouragement of 1,000f. each to MM. Camille Leroy and Kopezinski, and of 500f. each to MM. Berkeley, Chancel, Gaudry, Hardy, Money, and Bonnel, for their laudable efforts towards effecting the object in question. We may possibly offer some observations upon this subject on a future occasion."

DICENTRA.—In the "Foreign Notices" last month, occurred the synonyme of *Diervilla* for *Dielytra spectabilis*. It was, no doubt, a slip of memory on the part of the paper from which we copied; it should be *Dicentra*.

CAMELLIAS.—S. Feast & Son inform us that the Camellias, "Feast's Perfection" and "Triumph of Baltimore," were originated by themselves, and that they did not purchase any of this tribe of plants at Dr. Edmondson's sale. Mr. Feast has hopes that he is in possession of a fine perpetual strawberry.

A DIVING BELL that is entirely independent of suspension, its movements dependent on the will of those within it, has excited much interest abroad; it is perfectly safe, and capable of lifting enormous weights.

A NEW CEMENT of great value has been obtained by melting together, in an iron vessel, two parts, by weight, of common pitch with one part of gutta percha. It forms a homogeneous fluid, which is much more manageable for many useful purposes than gutta percha alone.

GOSSIP.—A grape grower in France has succeeded in destroying the oidium by burning sulphur under his trellis once a week, and thus obtained a noble crop of grapes, while those around him had very few. One difficulty encountered in the application of any remedy in the wine countries, arises from the sluggish habits of the peasants, and another from religious scruples, as if any exertions of their own out of the ordinary course, interfered with the dispensations of Providence.—M. Bourgeois presented to the Imperial and Central Society of Agriculture some shoots of a vine, as the result of numerous experiments which he had made with respect to ringing, and which he stated had been completely successful as regards the improvement of the grapes, the berries of which became larger, and ripened earlier in consequence of the operation. According to him, this experiment is of great importance, especially in cold, moist, and late situations in the neighborhood of Paris, where, last year, the grapes did not ripen well. He also states that it prevents the berries from dropping off. Some members of the Society thought that the operation would have no effect upon the grapes situated below the incision, and others believed that ringing weakens the plant.—The wild carrot makes good pegs for verbenas and petunias.—In the Champs Elysées, this season, there are some trees which present an odd appearance. They are good sized young horsechestnuts, which were planted this spring, when in leaf. They are alive, but seem not yet to have a hold on the soil enough to supply the exhaustion of evaporation. Accordingly, the trunks are bound round with canvas inclosing a quantity of moss. At the top of this, the stem is surrounded by a funnel-shaped piece of zinc, doubtless to facilitate the moistening of the moss.—A very good result would be produced, if the crest or crown of the white thorn could be grafted with the crimson; the force of contrast would be surprising and effective; or the white on the crimson would be equally beautiful. This may be readily carried into effect on the lawns or pleasure-grounds, where the trees would be safe, which they would scarcely be in more exposed situations.—A second edition of

Mr. Baker's *Rifle and Hound in Ceylon* (with woodcuts), has just appeared. Those who have read the author's very interesting *Eight Years' Wanderings in Ceylon*, will gladly make acquaintance with the little London volume; those who now read the latter, will be anxious to see the former. The *Rifle and Hound* is a sportsman's book, full of hunting adventures, advice about guns, and stalking, and camping out; and of the way to make hunters war upon elephants, deer, bulls, boars, and bears.—Some of the reeds of Brazil, called Taquarussa, are living fountains; they grow from forty to fifty feet high, with a diameter of six inches, form thorny, impenetrable thickets, and are exceedingly grateful to hunters; for, on cutting off such a reed below a joint, the stem of the younger shoots is found to be full of a cool liquid, which quenches the most burning thirst.—The floor-matting so much employed in America, is made from a reed (*Papyrus corymbosus*). Another reed helps much to protect the banks of the Ganges from the rapidity of the stream, and the force of the tides; it is the *Cyperus inundatus*, and should be tried on our Western rivers—as, in Holland, the *Carex arenaria* is carefully planted on the dikes, where its far extending roots, by mutually interlacing with each other, fix the sand, and give strength to the embankment.—The *Cyperus hydra* (called Nut-Grass in the West Indies) is a pest, overrunning sugar plantations, and rendering them barren.—The latest adaptation of India-rubber, is to inclose a strip in wood in the form of a great lead-pencil, when it makes a most convenient article to rub out lead marks on paper. It is sold in this form, very generally, by stationers.—In its wild state, the pine-apple, when unripe, is so excessively acid as to burn the gums of the mouth; it is then employed, in the West Indies, to destroy intestinal worms.—The tuberose emits its scent most strongly after sunset, and has been observed, on a sultry evening, after thunder, when the atmosphere was highly charged with electric fluid, to dart small sparks, or scintillations of lucid flame, in great abundance, from such of its flowers as were fading.—A good gardener asserts that he has found "well kept" was synonymous with "easy kept," and that, with plants as with other things, "a stitch in time saves nine."—The Pistol plant is thus alluded to in the *Sydney Morning Herald*: "A lothouse plant, *Pilea allitrichoides*, of tender, brittle, and juicy aspect, looking as if good to eat in a cooling salad, is really of so explosive a temperament that it might fairly be called the Pistol plant. When near flowering, and with its buds ready to open, if the plant is either dipped in water or abundantly watered, each bud will explode successively, keeping up a mimic Sebastopol bombardment, sending forth a puff of smoke, or of dusty pollen, as its stamens suddenly start forth to take their place and form a cross. It is an amusing toy."—The Squills (*Scillæ*) make excellent edgings of bulbs, and are too little known among us.—Cherries of good kinds were readily retailed, the past season, at ten and twelve cents the pound. The wet spring had injured the crop.—M. Millon, an Algerian colonist, according to a report by M. Payen to the Central Agricultural Society of France, has found in the thornless species of Cactus a valuable food for cattle in Algeria, because it supplies the want of green fodder during the season which, from the month of June forwards, burns and destroys every sort of herbaceous vegetation which cannot be continually watered or irrigated.—An application of sulphur is thus described in the *Gardeners' Chronicle*: "I had before applied sulphur in various ways, and this year I only mixed up such a quantity in water as would freely pass through a Read's hand syringe, and dashed it freely on the glass above the vines. The sulphur adhered to the glass and dried on, but, in windy weather, is partially detached in fine powder, and falling on the leaves, keeps them under the continued influence of its effects; and certainly a cleaner and more healthy foliage cannot be desired. I may mention that a Black Hamburg recently introduced, began early to show symptoms of mildew, but entirely recovered, and has not since been unhealthy."—The Wistaria vines are the best runners to cover unsightly trees that are needed to remain in your grounds from any cause.—Many classes of herbaceous plants continue to brave the rigors of the winter,

covered with a cold and bright mantle of snow ; of these species which survive the winter, some are biennial, and others perennial ; and, with respect to the former species, though their life may be prolonged by transplanting them, and thus retarding the period of their flowering and bearing seed, yet no artificial means can prevent their decay, after they have provided for the future propagation of their species, by exercising this important function :—

“He marks the bounds which winter may not pass,
And blunts his pointed fury ; in its case,
Russet and rude, folds up the tender germ
Uninjured, with inimitable art ;
And, ere one flowery season fades and dies,
Designs the blooming wonders of the next.”

—Certain fungi are believed to be connected with the process of fermentation. The curious circumstance that, in certain bake-houses, all the bread becomes ropy, and though sometimes prevented from assuming this condition by repeated washings of the walls and floor with chloride of lime, the evil is occasionally so obstinate as to prove the ruin of the establishment, is probably dependent on this cause. Dutrochet believes that he witnessed the growth of a *Penicillium* from the globules of milk.—We talk of, and admire very properly, the beautiful flowers of the air-plants grown in greenhouses, forgetting that nothing can be more varied than the common lichens which grow so profusely on our fence rails, rocks, and elsewhere, deriving their nourishment from the air, and assuming most curious hygrometrical variations—some, of the richest golden yellow, others with tiny goblets, the borders studded with crimson shields. In the tropics, they lay hold of evergreen leaves ; their chosen climate is one that is temperate and moist ; aspects to the north or west are their favorite resort, for they shun the rays of the noontide sun. They are met with to the limits of eternal snow. With a good microscope, a student might pass his life in their study alone.—From kelp (the product of a sea-weed) a useful article for the soap-boiler and glass-maker is produced, and sea-wracks (as they are called) thus take their place among valuable vegetation ; their soda makes useful manures, and in medicine they are occasionally employed. Their medical value seems to be owing to the presence of iodine, which is known to be a powerful remedy in cases of goitre, &c. The burnt sponge formerly administered, probably owed its efficacy to the iodine it contained ; and it is a curious fact, that the stems of a sea-weed are sold in the shops, and chewed by the inhabitants of South America wherever goitre is prevalent, for the same purpose. This remedy is termed by them, *Palo-coto* (literally, Goitre-stick).—Fungi, including mushrooms, have engaged the attention of various naturalists ; they are important either as food or as poison, or as parasites destructive of plants on which they grow. As food, the most valuable are the *Agaricus campestris*, or common Mushroom, the various species of *Helvella*, or Morel, and the Truffle ; but a considerable number of other kinds are used as food in various parts of the world, of which a useful account will be found in De Candolle's excellent *Essai sur les Propriétés des Plantes* ; Persoon, Greville, and other authors, have found them a prolific topic. The decay of fruit appears, in a great measure, to be produced by them. The *Rhizomorpha* (a spurious genus) vegetates in dark mines, far from the light of day, and is remarkable for its phosphorescent properties. In the coal mines in Saxony, the species are described as giving those places the air of an enchanted castle ; the roof, walls, and pillars, are entirely covered with them, their beautiful light almost dazzling the eye, the light increasing with the temperature of the mine.—Dr. Gray says, in one of his essays, “no idea is more fallacious than that those who know a little of a science may be qualified to write elementary books for those who know nothing. Those who have but a pittance of scientific knowledge had best give God thanks, and make no boast of it ; and as for their writing, let that appear when there is no need of such vanity.”—Mr. Bateham gives a slashing review of Hooper's Fruit

Book in the Ohio Cultivator; to this the editor adds the following: "NORR. Bro. Bateham puts it to Father Hooper right strong. We fear he has struck a hollow tooth into a crab or persimmon, lately, that makes him write so savagely."

STRAWBERRIES IN IOWA.—The Ohio Cultivator says: "Robert Seevers was one of our pomological correspondents some years ago, in Coshocton Co., from whence he removed to Iowa about five years since. We see, by the Oskaloosa Herald, that he is still raising fruit, as set forth in the following statement: 'The ground occupied was fifty-nine feet long by fourteen wide. He has gathered from this patch of vines, the present season, one hundred and fifty-two quarts, or four bushels and three pecks of berries. At this rate, the yield per acre would be two hundred and thirty-two bushels. Mr. S. sold his crop at twenty cents per quart. An acre of ground planted in strawberries, would bring to the owner, at this rate, eight hundred and forty-four dollars and eight cents, in one season. Mr. Seevers is pretty extensively engaged in this branch of business. The above yield is from 'McAvoy's Superior' plants.'"

SHRUBS WITH ORNAMENTAL BERRIES.—A friend has kindly written to me, to point out an error in my paper on the above subject, which I hope you will give me the opportunity to correct. In treating of *Gaultheria shallon* and *G. procumbens*, the sentence reads as if both had black berries. The *G. procumbens* has red berries. This is well known as the Teaberry (a name also given, in many parts of Pennsylvania, to the fruit of *Mitchella repens*), and as an ingredient in many varieties of tooth paste, powders, and washes, and as coloring matter for Swain's Panacea, and a flavoring article for other so-called "remedies," is extensively known.

Rhus coriaria should read *R. glabrum*. I have seen what I take to be a form of *R. glabrum*, though differing in the form of the panicle, time of flowering, and shape of the leaves, and which I consider to be the *R. elegans* of English gardens, that always bears male flowers; as this does not, of course, bear berries, those who wish to cultivate the *R. glabrum* for its fruit, must take care to get the proper variety.

A lady correspondent further complains that I have neglected to include in my list the *Daphne mezereum*, which she justly considers equal in beauty with its scarlet berries to anything I have described. At the moment of writing, I had on my mind that it was not hardy enough to be included; but as it is certainly hardier than some I have described (especially *Cerasus Caroliniensis* and *Callicarpa Americana*, which, as my friend first alluded to observes, in his letter, he has "scarcely been able to get to live over a Pennsylvanian winter"), I have no excuse to offer my fair friend for the omission. THOS. MEEHAN.

THE CHURCH PEAR.—Some one has been good enough to show me a scrap of the *Rural New Yorker* respecting the Church Pear, pretending that it was not a seedling but a Bergamot, known in Flushing, if I remember, and much like it. I had no occasion to compare the wood or the fruit, but that the Church-tree is an original seedling, I have not the least doubt. Why should that old tree be the only one of that Flushing variety grafted sixty or seventy years ago in New Rochelle, among scores of old, all of them wild pear-trees, either of the same age, or thereabout? There would be another tree grafted with that variety, if it was so much esteemed as to have attracted notice over Long Island Sound; this would seem a natural proceeding, but no grafts were made. Moreover, the original Church bears no mark of ever having been grafted.

I asked Mr. Carpenter to take up a piece of the root, which I shall plant, and if the foliage should prove different from the large parent tree, I shall give up my opinion, in which I have no interest. Till then, I think the large, fine Church-tree to be as original a seedling as I ever saw before. The close resemblance of both fruits is no proof to the contrary;

hybridization is the general law with apple, pear, and other seedlings, but it is not such a stringent law as to admit of no exceptions. I have witnessed several reproductions identical with the parent seed, and if it was proved to me that the Long Island Bergamot and the Church were one and the same variety, it would not surprise me as a *wonder*, nor as a *lusus naturæ*. It seems rather surprising that some seedlings differ *so widely* from their parents. I can show, in thousands of mine, the offsprings of a carefully noted pedigree.

Truly yours, L. E. BERCKMANS, *Plainfield, N. J.*

HOLLIDAYSBURG, Pa., August 5, 1857.

EDITOR OF HORTICULTURIST.—DEAR SIR: The *first* horticultural exhibition ever held in this county, came on the 31st ult., and I take great pleasure in communicating to you that it was successful entirely beyond the anticipations of its projectors. The display, for a first effort, and among the mountains, where but little attention has been paid to gardening until within the last two or three years, was fine indeed. I know you cannot afford me the room to particularize, and I will merely mention that, as the *first best* thing we could offer to a cultivator of flowers, we proposed the *Horticulturist* for a year, for the best display of pot plants, and that it was awarded to Mrs. Lloyd Knight, our Lutheran pastor's wife. Second premium for pot plants to Mrs. Daniel Bolinger. First premium for cut flowers (*Buist's Flower Garden Directory*) to Miss Anna Baker. Second premium for cut flowers (*American Florist's Guide*) to Mrs. Jas. A. McCahan. Complimentary notice was taken of contributions of pot plants and cut flowers, by Mrs. Thad. Banks, Mrs. J. Penn Jones, Mrs. A. F. Osterloh, Mrs. O. A. Traugh, and quite a number of others. The contributions of fruit and vegetables were not so good. The first premium for largest collection of vegetables, was awarded to Mrs. Elias Baker. Second premium to Sheriff Post. The Fruit Committee awarded no premiums.

I will add, only, that the exhibition was a most agreeable and pleasant affair, and that we are so well pleased with it that we mean to have another in the course of a month or six weeks.

Yours, &c.,

NEW RURAL PERIODICAL.—We understand that a new weekly rural periodical will be issued, under the title of the *Rural World*. It will be profusely illustrated, taking the form of the *Rural New Yorker*, with a large increase of matter, and be published at ONE DOLLAR a year.

LINNEÆ'S RHUBARB.—If any one ever doubted the use of horticulturists, they have only to see what has been done in the matter of rhubarb alone. Freeman & Kendall, of Ravenswood, Long Island, have forwarded us some stalks which it is no exaggeration to say, are more than double the size and weight of what used to be considered highly respectable. They are mammoths, and we are determined to root up all our old stock at once, to grow this new and valuable article. See their advertisement.

POISONING MICE.—Take one-fourth oz. powdered nux vomica; half pint common boiling peas; simmer them, with as much water as will prevent their burning, for half an hour, and take them off. When any person sows his peas, let him add one-third of the poisoned ones to what he intends to sow, and throw them together into the same drills.

A NEW FOOD BULB.—Mr. Paul Kane, of Toronto, Canada, gives an account of his travels among the Chinook Indians of the northwest coast of America. He states that the only vegetables in use there are the *Camas* and *Wapattoo*—the former, a bulbous root, resembling an onion in outward appearance, but more like the potato when cooked, and very good eat-

ing. The Wappattoo is somewhat similar, but larger, and not so dry or delicate in its flavor. They are found in immense quantities, and have bright, ultramarine blue flowers. What a pity Mr. Paul Kane cannot tell us what they are.

MR. EDITOR: I was much pleased with the picture of an aviary you lately promulgated. If birds in confinement only *would not die*, and thus satisfy us they were happy and contented, I should be very apt to keep them by hundreds; but sad experience in losing my pets, has told me to keep only the saucy and hardy in confinement. Parrots are now my hobby, and, after two years' trial, I have not lost one out of twenty. The accompanying parrot-house might very well be combined with a vinery, where, under the shadow of purple grapes, a number of variegated (tulip) parrots might find sufficient room to be saucy and happy. The design is in the Moorish style. Sashes or



trellis-work, made to fit accurately, would render it secure in winter. A collection of parrots and paroquets, would have a splendid effect in such a building, and give it a truly Oriental appearance.

FIGARO.

ANSWERS TO CORRESPONDENTS.—(A. D.) According to Dr. Gray, the Washington Elm at Cambridge, Mass.—a tree of no extraordinary size—was some years ago estimated to produce a crop of seven millions of leaves, exposing a surface of about five acres of foliage. If, for neatness' sake, or to obtain leaf-mould, you gather this annual harvest of leaves, you will, in time, take away great quantities of mineral as well as organized matter, by which the soil will be impoverished, unless it is restored by manures.

MOLES may be killed easily and safely, thus: Take a quantity of fresh earth worms; put them in a wooden box with a small quantity of carbonate of barytes, in powder; lay in the runs five or six worms, and continue doing so as long as the worms are carried away by the moles.

THE *Horticulturist*, in 1847, did state that Stephanoti's floribunda (a native of Madagascar) will answer well as a summer climber in the open border, if protected in the greenhouse in winter. It is difficult, in this climate, to have it so, though occasionally it will succeed. At the South, it would make one of the handsomest vines possible to possess.

CITY TREES.—If A. will recollect, he has rarely, if ever, seen a good specimen of an evergreen in the heart of a large city. The air is uncongenial to their growth.

(W. F. FALL.) Your communication, for the reasons assigned, was laid aside, and is now unfortunately lost. When your present season's experience is perfected, we shall be rejoiced to hear from you again on the former and other subjects.

A. J. N. had better apply to a bookseller at once.

(A SUBSCRIBER.) It is difficult to keep verbenas over the winter without a greenhouse;

they damp so easily. A sunk pit in the open ground, with a covering of glass or boards, to exclude the rain and frost, if air be admitted occasionally, to dry off the damp, will generally carry them through.

CATALOGUES, ETC., RECEIVED.—California Fruit, painted for the State Agricultural Exhibition, from specimens raised at Smith's Gardens, near Sacramento, by Thomas M. Logan, M. D. A very handsome colored picture, which we have had framed, varnished, and mounted. The fruits are Crawford's late Peach; circumference, twelve inches; weight, near twelve ounces. Smith's Californian Seedling Strawberries: longest diameter, two and two-tenth inches; shortest diameter, one and one-fourth inch. Black Hamburg Grapes: average diameter, eight-tenth inch. Cannon Hall Muscat: average diameter, nine-tenth inch. A super group, indeed.

Maury's Wind and Current Charts; Gales in the Atlantic. A beautiful quarto of twelve plates, designed to show the relative frequency of gales, during each month, in various parts of the Atlantic Ocean, North and South. A most valuable publication, by which Mr. Maury arrives at the conclusion that the season which presents the most favorable state of the Atlantic for passenger travel, is found to be about the last of July and first of August.

Circular of W. T. Hallett, Architect, Norwich, Conn. Well considered, lucid, and sensible.

Brunel's Mammoth Ship. Description of the Great Eastern Steamship, with engravings. New York: S. D. Drain. 25 cents.

Demands of the Age on Colleges. Speech of Hon. Horace Mann at Cincinnati, Ohio. New York: Fowler & Wells.

How to do Business; a Pocket Manual of Practical Affairs, and Guide to Success in Life. Same publishers.

List of Premiums and Regulations for the Ninth Annual Fair of the Michigan State Agricultural Society, to be held at Detroit, September 29th and 30th, and October 1st and 2d, 1857. A promising and liberal list. J. C. Holmes, Secretary.

Catalogue 1857 and 1858 of Fruit and Ornamental Tree, Flowering Shrubs, &c., cultivated by Wm. Reid, Elizabethtown, N. J. Among much that is valuable, Mr. Reid enumerates the American Holly, which many are now in search of.

Wholesale Price List, Fruit-Trees, &c., cultivated and for sale by the same.

THE NORTHWESTERN FRUIT GROWERS' ASSOCIATION will hold their next session at Alton, Illinois, commencing September 29, and to continue four days. This Association is a most valuable one, and will be attended by the best pomologists of the country. An invitation to attend will be accepted if health permits.

STATE EXHIBITIONS FOR 1857.

Alabama, at Montgomery, October 27 to 30.
Canada East, at Montreal, September 16 to 18.
Canada West, at Brantford, September 29 to October 2.
Connecticut, at Bridgeport, October 13 to 16.
California, at Stockton, September 29 to October 2.
East Tennessee, at Knoxville, October 20 to 23.
Illinois, at Peoria, September 21 to 24.
Indiana, at Indianapolis, October 5 to 10.
Iowa, at Muscatine, October 6 to 9.
Kentucky, at Henderson, October 12 to 16.
Maryland, at Baltimore, October 21 to 25.
Massachusetts, at Boston, October 21 to 24.
Maine, at Bangor, September 29 to October 1.

Michigan, at Detroit, September 29 to October 2.
New Hampshire, at Concord, October 7 to 9.
New Jersey, at New Brunswick, September 29 to Oct. 2.
New York, at Buffalo, October 6 to 9.
Ohio, at Cincinnati, September 15 to 18.
Pennsylvania, September 29 to October 2.
Tennessee, at Nashville, October 12 to 17.
United States Agricultural Society, at Louisville, Ky., September 1 to 6.
Vermont, at Montpelier, September 30 to October 2.
Virginia, October 28 to 31.
Wisconsin, at Jonesville, September 29 to October 2.
West Tennessee, at Jackson, October 27 to 30.

The Twenty-Ninth Annual Fair of the American Institute is to be held at the New York Crystal Palace, in the latter part of September. The programme is a liberal one.

The Annual Fair of the Illinois State Agricultural Society will be held at Peoria (Illinois), on the 21st, 22d, 23d, 24th, and 25th of September. Ten thousand dollars are offered in premiums by this most spirited Association, and the objects embraced are very numerous and various.

The Programme of the Tompkins County (N.Y.) Agricultural and Horticultural Society's Exhibition, is an excellent one. The Fair will be held September 23d, 24th, and 25th, at Ithaca.

OHIO POMOLOGICAL SOCIETY.—The eighth session of the Ohio Pomological Society will be held in Cincinnati, commencing on Monday, September 14, &c. (during the week of the State Fair). The meetings of this Society are now held biennially, alternating with those of the American Pomological Society. Those who attend are requested to bring with them specimens of such fruits as are found most valuable in their respective districts of country, and which have not been fully discussed at former meetings; specimens of good peaches and pears are particularly desired at this meeting, and it is hoped that all will come prepared to contribute something to the general stock of knowledge in regard to fruits and fruit culture.

Communications in writing are also solicited on subjects likely to be discussed at the meeting: such as the names and qualities of fruits adapted for different sections of our country, especially such as are found most productive and profitable for market; observations on the diseases of fruits and fruit-trees, and the means of their cure and prevention, including any experiments in the use of lime, plaster, ashes, or other fertilizers for fruit-trees; also, notes on insects injurious to orchards and fruit gardens.

The meeting will be held in the hall of the Cincinnati Horticultural Society. Address the President, at Cincinnati, or the Secretary, at Columbus.

A. H. ERNST, *President*; M. B. BATEHAM, *Secretary*.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY, MEETING AT CONCERT HALL, August 18.—This was probably one of the best August exhibitions ever held, in some part owing to the favorable season, but, in a great measure, to the increasing taste and spirit of the exhibitors. The plants were never better grown, or in finer condition; but we think the same faces appear too often, and others are a little too common. Thunbergias, scarlet geraniums, Cuphea platycentras, and fuchsias, on other florists' flowers, however well grown or beautiful, are scarcely what we expect to see in a collection of choice greenhouse or stove plants. There were, nevertheless, some rare things amongst them: Plumeiria purpurea, a plant with the appearance and beauty of an Oleander, Medinella magnifica, a new, yellow Echites, called Pellierii, Canna Warczewiesii, amongst others we particularly noted as valuable. We also noted, as a valuable sweet-scented greenhouse plant, a jacinthum called Aurantiacum, covered with yellow flowers, which, we presume, is not new, but far less common than it should be. The class of handsome Gloxinias, of which G. Fysiana is a well known type, has now many representatives. A new one, called Etna, white, with red throat, attracted much attention. Cut specimens of new Gladiolus contained many improvements in these beautiful flowers; we noted "Adonis" as one of the best. Two specimens, in vases, of Thorburn's imported verbena "Imperatrice imperial," were the most beautiful objects in the room. A collection of twenty-four varieties of herbaceous Phlox, by one grower, were much admired; and, in another beautiful collection, we noticed the fine-striped variety Roi Leopold. Baskets of magnificent Balsam flowers, comprised a novel and interesting feature; and the baskets and bouquets were so unusually numerous and beautiful, that even a Paris would have been unable to decide on their merits, and, we believe, the Society voted them all premiums. The Cactus men in the room must have enjoyed a treat in the Cereus triangularis, so seldom seen in flower.

A large shoot of the Lawton Blackberry was exhibited, to show its productiveness; there was probably a quart of berries ripe and unripe on it. Some shoots of the Catawissa Raspberry were also shown in fruit, but the berries were extremely small. Pears were numerous for the season, chiefly of well known kinds, as Bleeker's Meadow, Dearborn's Seedling (unripe), Tyson's, &c. Plums were not numerous; some large specimens of Bolmar's Washington were, however, very attractive.

The vegetables were very superior. We measured some tomatoes over five inches across.

At the July exhibition (an account of which was unintentionally omitted), Mr. Thomas, gr. to J. D. Whetham, had a basket of raspberries said to be a seedling; the fruit was nearly double the size of some Fastolfs from another grower. If this kind sustains its present relative size, it will prove valuable. A fine dish of cherry currants reminded us how slow this really fine variety is coming into cultivation.

It was quite a relief to find one exhibitor employing the leaves of the deciduous cypress in bouquets instead of the arbor-vitæ we see so everlastingly. The various kinds of ornamental grasses are becoming favorite ingredients in successful bouquets.

The annual meeting will be held in Jayne's Hall.

Calendar of Operations.

SEPTEMBER.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

By the first week in this month—some years the last week in August—the grapes in this vicinity begin to color; then all danger from *rot* is over. *The crop is made.* Hail-storms may injure it, but nothing else. The work, too, in the vineyard is over, except to tie up straggling or fallen branches.

Some vine-dressers cut off the ends of the branches above the tops of the stakes, to make the grapes ripen better; but this is not generally approved, as it is apt to start the fruit-buds for next year to swell prematurely, subjecting them to be injured by hard frosts in winter.

The vintage some years commences the last week in this month, but generally the first week in October, under which month the process of conducting it will be described.

To prepare for the vintage, it will be necessary to have the wine-casks, press, and all vessels requisite, well cleansed and put in perfect order. As much care and neatness should be observed in making wine as in making butter.

N. B.—I regret to say that in all this region about two-thirds of the grape-crop has been cut off by the mildew and rot. Young vines have suffered less than old ones. In Missouri, thus far, the grapes are very fine, and free from disease.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—The perfection in celery is to have it well blanched; it is then sweet and crisp. It is sometimes recommended to grow it large and strong previous to blanching; no doubt large stalks will thus be obtained, but at the expense of quality. It must be earthed up and blanched while it is growing; after growth is completed, no amount of covering will whiten it. The main crop of turnips may be sown; sow them thin, and thin out to ten inches apart as soon as they get up. Good turnips cannot be had unless they have ample space to grow in.

Now is the proper time to arrange for next year's cropping. Ground for certain crops should be manured and dug over, unless on very sandy soils, which, we think, derive no benefit from fall digging. For root-crops of all kinds we prefer to manure heavily in the fall, and plough or dig it in. Putrescent manure, applied at the time of sowing seeds of esculent roots—as carrots, beets, &c.—has a tendency to encourage root-fibres near the surface, detrimental to their longitudinal extension and consequent usefulness. Attend also to the rotation of crops, a subject of much importance, and very imperfectly understood. It was at one time thought that chemistry, by acquainting us with the exact requirements of each crop, would enable us to grow the same crop on the same ground for an indefinite period, by annually applying the necessary ingredients, and thus obviate any necessity for rotative cropping. This, however, is not likely soon to be realized.

STRAWBERRIES may be planted yet. Prepare the ground by thorough manuring and trenching. If planted in rows, let them be at least three feet apart. Strong growing kinds—as Longworth's Prolife and Boston Pine—should be at least eighteen inches from plant to plant in the rows, and the plants or hills kept distinct. When they are too much crowded, the plants may produce abundance of flower, but no fruit. Select young plants from healthy vines that are in a good bearing condition. Also see to planting a due proportion of staminate along with the pistillate varieties. After planting, spread a mulching of rotted manure between the rows, to keep the soil moist, and protect from frost when it arrives. Spent tan-bark is often useful for this purpose, and may be used as a substitute when it can be obtained. Old plantations should be well thinned out, that the buds for next year's crop may be well developed before the season's growth terminates.

RASPBERRIES.—The old canes that have fruited should be pruned out at once. The young canes should also be thinned out where they are too much crowded. Allow six canes to remain for the present, and next April cut two of them down to within six inches of the root; these will then throw out fruiting branches, which will be a few weeks later in making the fruit, and prolong the fruiting season to that extent.

PEARS.—To have superior winter fruit on the dwarf trees, give them a thorough soaking of weak guano-water once a week, unless the weather should prove very wet; if so, sprinkle a handful or two of guano over the roots, and cover it by hoeing or slight forking of the soil. Thin the fruit, also, where the crop is heavy. Heavy cropping has tended much to throw discredit on dwarf trees, retarding their growth, and inducing weakness and disease. Prepare for planting by trenching, and see that the compost heap is ample and thoroughly decomposed for use.

GRAPERY.—Air may now be more freely admitted than at any other period of the year, the better to mature the wood for next crop. Heavy rains should be excluded from the border if the fruit is well ripened. Another cause of badly colored fruit, not previously mentioned, arises from a too rigid summer pruning, checking the growth of the plant and hardening the wood before the fruit has derived sufficient nourishment for proper development. Where this is the case, no treatment now will remedy it.

GREENHOUSE.—Seedlings of *calceolarias*, *cinnerarias*, &c., should be transplanted as early as they can conveniently be handled. Cuttings of most flower-garden plants will form roots readily at this season; but by lifting and potting a few old plants of the different sorts of *verbenas*, *heliotropes*, *petunias*, *salvias*, &c., and keeping them over winter, they will afford sufficient cuttings to propagate from in the spring. Cuttings rooted then make better and healthier plants, grow more freely, and produce larger flowers; besides the saving of time and labor required in attending to a quantity of young plants in small pots, and the economy of space which they would demand, which can be turned to better account.

Hyacinths and other bulbs should be potted as early as received. Plunge the pots in ashes, sand, or sawdust, covering them a foot deep at least; they will here form a mass of roots with little or no elongation of stem. When taken into the greenhouse (a few at a time), they will flower in a few days after this treatment. Many hardy plants afford bloom in winter, if potted now. Pre-eminent is the *Deutzia gracilis*; *Weigela rosea*, *spireas*, *prunifolia pleno*, and *Reevesii*, *jasminum nudiflorum*, *Forsythia viridissima*, and small bushes of the Persian lilac, are all well worth potting for early greenhouse flowering. Secure a good stock of monthly flowering carnations. All the greenhouse plants should be gradually hardened, and treated in a manner to perfect their growth. Guard them from wet and excitement at this season, that they may be prepared for the winter.

PLEASURE-GROUND.—The time has again arrived when alterations of all kinds connected with ground-work are to be effected with the greatest advantage. If improvements are contemplated, the present is the proper time to consider and determine what these shall be. Now is the best time to study the composition of landscape scenery, the individual and collective beauty of trees, as they are clad in the beauty and variety of the "sere and yellow leaf." The garden scenery is constantly changing, however imperceptible it may be; and if this progressive change has extended over several years without interruption, it may now be proper to reflect whether or not time is producing effects that demand immediate attention. Certain trees may have overgrown their intended limits, and be producing effects the opposite to what was intended. Roads and walks which, a few years ago, seemed to have "ample room and verge enough," are now encroached upon so far as to call for immediate alteration, either by removal of the trees or altering the form or direction of the walk; the latter being the most advisable, if at all practicable. No mechanical rules can be permitted to guide us in these and similar matters of taste; yet there are principles which must be adhered to, and which no person of refined and cultivated taste will depart from.



CAROLINA HOUSE, ISLAND OF CUBA L. MONSON, PROPRIETOR.

A Trip to Cuba and the Southern States, No. 5.



ILLUSION has already been made to an American boarding-house in the country. A few days passed there, realized to our party the blessings of the English language; most of us were lamentably deficient in Spanish, and though one or two professed to translate to the others the small amount of information contained in the Havana papers (which are mostly filled with long love stories, and give, for foreign news, the price of sugar and the rate of exchange, to the exclusion, almost, of everything which would inform the inhabitants of how the world wags beyond the Gulf of Mexico), it was a relief to find landlord, major domo, chambermaid, and a fine boy who brought us our daily baskets of oranges, &c., all speaking undisguised

English. Their information regarding the trees was rarely such as would do to *print*, for they confounded pines and dates with bread fruit, and so on; but we had to confess that a common language was a great bond of good fellowship. This house is on a plantation of four hundred acres, once devoted to the cultivation of coffee, but the owner dying, it has been rented to Mr. Monson. The dwelling is a *hybrid*, meant to embody indulgences for some of our habits, while it conformed to the climate. It bears no resemblance to the generality of houses on the island, which are more like Mrs. Almy's (before inserted), and only of one low story. Framed in the United States, Mr. Monson's house has glass windows, and somewhat of an American air, and visitors may here feel quite at home, and make pedestrian, railroad, or equestrian excursions to the fine scenery and the sugar and coffee plantations with great satisfaction.

There are a few other places where English is spoken; among them is Mrs. Lawrence's, at Guines, where some comfort is to be had, but if you ask the hotel keepers in Havana for such places, they will sometimes flatly deny their existence, in the hope of keeping you within their own grasping charges.

From this point, an expedition was got up to procure some air-plants for sending home. A black was hired to climb trees, and a white man for guide. The laziness of both was characteristic of the climate. The black was about to ascend a tree, when his master wanted to smoke a cigar; no matches being found on any of the party, the lazy fellow left us all in the heat, while he went away for half an hour, to get a light for his master; *after* which, he concluded that particular tree was utterly inaccessible, and a new search near the house where he procured fire, had to be undertaken! Truly, it is difficult, with such tools, to get along, or accomplish much.

Fortunately, there are men in existence, in every age, who depend upon themselves, and who take the exertion necessary into their own hands. The name of Professor PHILIP POEY is well known to all men of science. He resides in Havana, and is attached to the College, all his leisure being devoted to natural history. With so wide a field for research, and with true enthusiasm, it may be well imagined that his correspondence with the learned societies of other countries is of the most valuable kind.

JOHN GUNDLACH is a name also well known to European and American naturalists, his collections being found in the best museums wherever science is cultivated. His great topic is ornithology, but he does not confine himself exclusively to birds. He starts out with a meagre scrip and wallet, and traversing the island like a true devotee of science, reminds one of the votaries who have sacrificed

health, time, and talents, to the acquisition of knowledge and the benefit of their fellow-men, without other reward than fame and a sense of their own usefulness. A few friends of science subscribe for his support, and he returns from his excursions and hard fare loaded with treasures for distribution where they can be further studied and enjoyed. Mr. Gundlach has been known to follow and watch a single pair of birds for a week, till he had become fully acquainted with their habits. The Academy of Natural Sciences, at Philadelphia, has been greatly enriched by his devotion; it now possesses, beyond question, the finest ornithological collection in the world—a hint that we throw out for the benefit of visitors to our city, which many will be thankful to remember. Among the members of the Academy, the names of Francisco A. Sauvalle, Professor Philip Poey, and John Gundlach, are much better known than that of Walker the filibuster, so often of latter times repeated in newspapers, and so very different in regard to useful works. Mr. Gundlach is a native of Baden.

The former owner of the Carolina House had some ideas of embellishment; his planting of avenues of palms, and his long approach to the house through orange-trees and some rarer kinds, will gratify the visitor extremely. In the neighborhood are good specimens of coffee and sugar estates, pine-apple fields, yucca and aloe hedges, and some of the best scenery; from the tops of the high hills very fine views are obtained of Matanzas, the Gulf of Mexico, and the Caribbean Sea.

You have only to wish, and a cocoa-nut full of milk is poured into your tumbler; give little "Charley" a basket, and he brings you it filled with oranges; walk into the garden, and you may help yourself to ripe bananas; and if your taste has come round to the sapote and the mammea apple, with their sickly sweets, they, and very many other fruits, can be had for the asking, including tamarinds, &c., and nuts that you never heard of or saw represented. If Mr. Monson should be encouraged to persevere in making his establishment what it ought to be, it will be filled every winter with respectable boarders. The very last sugar-mill worked by oxen, is within walking distance, affording a strong contrast to the more modern steam operations now so universal. The labor and lungs employed to keep the animals up to their slow circular motion, are a caution to work whenever it is possible with lifeless materials. Two blacks, and a son of the proprietor to watch operations, were required to keep the sluggish animals in a very slow walk, to say nothing of the goods replenished at short intervals, and applied with loud yells and screams from all three in regular turn. This gentleman makes syrup only, and, it is thought, would have to give up his melancholy team but for the present high prices. On this small estate there are some very fine shady avenues of fruit and other trees which we saw nowhere else.

The crow of the game-cock may be heard at all the Havana hotels and the plantations; several wealthy proprietors have cock-pits of their own, and of course betting is rife and fashionable. We heard a good story of a party near Trinidad, who were carrying to the town some fifteen hundred dollars won at a pit, when they were attacked and robbed by the losers, though the Governor of Trinidad was close behind their volante. Stories of robbers are not so rare that one becomes utterly careless of his safety, or inclined to make long excursions alone. The police are not to be found at every turn, and it is true that marauders discharged from the army, or let loose from prisons, roam about, mostly at night, and waylay the unarmed. Caution is recommended, but Mr. Monson assures us he has ridden for years unarmed, by day and night, without the slightest molestation.

A rather amusing rural scene, showing the love of the fighting cock, was exhibited on our ride to the Carolina House. A family from Havana was in the

cars, apparently emigrating to their country estate; the station reached, the most elegant carpet-bags and trunks we had ever seen were tossed into a bullock cart of the roughest construction. The ladies found volantes in waiting, and a very young gentleman mounted a led-horse with saddle and holsters; when fairly in the stirrups, a game-cock (his only apparent baggage) was handed carefully to him by a servant. A shrill crow of defiance to all the *games* in the neighborhood, was the last we heard of our car companion, who had smoked all the way, and was extremely polite in supplying fire to a damosel who relished the weed amazingly. The practice of ladies smoking is not very common—in public, at least. Another instance we had, in the Isabel, of a very pretty Cuban lady, who took her strong cigar after every meal, while parading the deck, and, we must say, her pretty white fingers were not ungracefully employed in twirling it about; her husband smoked at the same time, seeming to think it quite the thing that she should be similarly employed. And pray tell us, fastidious critic, is there any good reason, if the men will smoke, why ladies should not? We heard one on board ship threaten to *eat garlic* if her *cara sposa* would indulge with tobacco!

After talking of robbers late one evening at Mr. Monson's, one of our party who had laughed at the idea of danger, sallied out next day, before breakfast, for a ride on horseback, and soon lost his way. At a rough-looking shantee, he made out to say: "Hotel Americano!" and was civilly shown his road, though considerably alarmed at the barking of a brace of savage-looking bloodhounds that were inclined to track after him. Entering a wild piece of tangled wood, he encountered, at a short turn, a Spaniard mounted on a capital animal, with his holsters evidently full, and a sword, or machette, in his girdle. He began to think the specimen of rather equivocal build, remembered the stories told over the back-gammon board, and shivered, he says, *only once*; he then summoned courage, and, putting on a brave and amiable look, said, in his meekest tones, with a query at the end: "Hotel Americano?" The ferocious "robber" took off his hat, and bowing to the holster tops, drew his sword! and pointed in the proper direction, indicating a little turn in the route, close by, with a *scimmetical* motion that was not quite to our traveller's taste, but which closed by both pursuing their peaceful paths. The American did not seem to have *minded it much*, but ever afterwards we remarked he preferred to ride in company with others!

From Mr. Monson's, short rides on the railroad afford excellent opportunities for observing the peculiar appearance of the country, and the novelty of the vegetation. Occasionally, you come in sight of very beautiful avenues of the Royal Palm, planted with great regularity, sometimes in double or triple, and even quadruple rows; the effect is very striking, comparable to nothing but Egyptian architecture, without much roof. Nothing that could be set down in our regions (if that were possible) would produce such a sensation as a row or two of these superb columnar trees, with their waving branches of green, and their fruit stem. At El Carolina House, there is an avenue of these Palms along the whole road front, giving an air of great stateliness to the property.

One of the very prettiest places we saw, adjoins Mr. Monson's; it is a small coffee estate, extremely well planted, and full of fruit. The owner has a small dwelling to eat and sleep in, but the open air seems to be the *home* of the family. Here we observed again the enormous quantity of bees that can be fed from the coffee, orange, and other flowers. About one hundred swarms were working away most industriously, with no other attention than having been placed in a hollow log about three feet long, and open at both ends. This log is merely placed level on a couple of stones, at an elevation from the ground of about six or ten inches.

There appeared to be no fear of the moth, so destructive an enemy among us. The product of honey and wax from Cuba is very great.

The orange-tree does not fare so well. It is attacked by a coccus, which envelops the whole wood, and has once or twice destroyed nearly all the plants on the island, no attention being given to its extirpation. Some twenty years ago, it obtained the mastery, when orange-trees became extremely rare, the export of the fruit being abandoned. Whole fields hedged with this valuable fruit, disappeared; those now seen were soon afterwards planted, and are again destined to destruction for want of care—shall we say, for want of a *Horticulturist* to warn the proprietors of their danger, and the remedy?

We might give long botanical descriptions, but why enumerate where the catalogue would include such great variety? Every garden might have, and many do have, such plants as the lemon-scented verbena as a common bush; the *Magnolia fuscata* and the *Pittisporum*, are as common as box-bushes with us, sometimes attaining a height of twenty feet. There is also a tree mignonette, *Reseda arbusta*; the almond grows with the slightest attention; various fruits of the *Sapotæ* family, or Star apples, are common, as are wild plums, the caimeta, and an *Anona* called *Sapota*; the latter is agreeable, but, in general, it may be said that the numerous fruits that are so tempting to the eye of the new-comer, are not very good eating. They possess a sweet, sickly flavor that very few relish. Visitors are apt to keep to their well-esteemed oranges, bananas, and pine-apples. Doubtless, a taste may be acquired for many others by degrees.

GARDEN VEGETABLES, NO. 10.—THE MUSHROOM.

BY WM. CHORLTON.

THE Mushroom, in a natural state, is very generally distributed over many of the more temperate parts of the world. The species that is most commonly accepted is the *Agaricus campestris* of botanists—a cryptogamic plant of the natural order *Fungi*. That part made use of, and which develops itself above ground, is the fructifying organs, the real and true plant being beneath the surface, in the form of delicately reticulated and slender, white threads, that traverse very rapidly any matrix which is conducive to their welfare. It is an edible that is almost universally relished, although we cannot say much in favor of its nutritive properties; it may be either made up into a dish for the table, used as a flavoring in many kinds of cookery, compounded into catchup, or preserved in pickle. In all cases, there is a fine, savory taste imparted to whatever it accompanies.

Considering the great request for Mushrooms, it is not a little singular that the cultivation of them is not more generally understood; more particularly so, as they neither require an extent of garden ground, nor yet the influence of the sun's rays, to bring them to perfection. Any person who has got a good cellar that is free from frost, may grow them through the winter; and at other seasons nothing is needed but a closed-in shed, or, in a small way, a few boards nailed together in the form of a Δ cover, to keep off heavy rains and drying winds. Such conveniences are enough to supply any ordinary family, but when a great quantity and uninterrupted succession is wanted, it becomes necessary to erect a house for the purpose. In such case, a double-span roofed shed, some ten feet wide, and in length according to the demand, is the best adapted, and most economical. The framework of this may be built with common spars, the roof shingled, and the whole double-boarded, with the between casings filled with shavings, sawdust, or, still better, powdered charcoal. Such a structure is similar to an above-ground

ice-house, than which nothing can be more suitable, as it serves the double purpose of keeping out the extreme heat of summer, and the cold of winter, both of which are preventives to success. On each side (inside the house), there ought to be two or three heights of shelves, about four feet wide and three feet apart, with a board ten inches wide, placed in front of each, for the purpose of making so many beds as succession crops. Notwithstanding this contrivance, it is requisite during very severe weather to have some artificial heat, which is sometimes supplied by a common flue placed along the ground, level, and in the middle of the house; but as there is some danger attending this, and the warmth therefrom is of a very drying nature, it is better to fix the lower shelf about three feet high, and, when required, to keep the under space filled with fresh, fermenting, and somewhat dry stable manure, and the droppings as below described, which will give out enough heat and genial moisture to raise the temperature sufficiently. Where expense is not an object, and there is a regular arrangement of houses for the forcing of vegetables in the winter, the Mushroom house may form a part of the whole; and if hot water is employed for heating, a pipe may be introduced into it, which is certainly the most cleanly and perfect mode.

How to make Spawn.—The next preparation is a quantity of good spawn, which may be made as follows: Take equal portions of unfermented horse and cow manure, and fresh earth from a pasture field; mix and work these together. Add sufficient water to reduce the mass into the consistency of stiff mortar. Mould into the form, and about the size of common building bricks; set into an open shed, and turn them over once a day, until nearly dried through; then cut a hole of an inch diameter into the centre of each; fill up with a piece of good spawn, and paste over the aperture with a little cow dung; build the whole into a conical heap, first strewing some littery stable manure underneath, and, as the work proceeds, fill in between each layer with an inch of half-fermented, dry, horse droppings; cover with a few inches of the same, and as much litter as will enable the heap to acquire a gentle warmth, *but not more*, or the spawn will be killed. In the summer time, there is generally heat enough without any fermentation, and care should be used on this point. If all goes on well, the rhizoma will have penetrated through the whole substance in three or four weeks, which may be known by its appearing full of fine, white threads; but if, when examined, it is found to be only so around the piece previously put in, the spawn is not sufficiently run, and it should be left undisturbed a week or two longer. After this time, examine again, and do not let it become too far advanced, or the keeping properties will be very much depreciated. When all is right, remove the bricks into a dry and cool room, protected from frost in winter, where they may be preserved good for several years. I have used Mushroom spawn five years old, and found it as good as when first made. Hitherto, we have only shown so far as to require a small portion of "leaven" to commence with, and there are many persons so situated as not to be able to get this. There are not many places, however, where horses, cows, or sheep, are not stabled, and the manure lying around, and it often happens that more or less has been accidentally protected from extreme wet. These are the spots to look for natural spawn, and, when found, a very small portion is enough for a start. Do not collect any that may be produced from decaying wood or leaves, for, notwithstanding it may run in the prepared compost, there is danger of its not being the right kind. It may be another species of the same genus, and probably a poisonous one; while, by attending to this advice, the true sort is sure to be obtained. The edible Mushroom may always be known by its plump, solid, and fleshy appearance, brittle texture, and, above all, the beautiful pink color of the *laminae*, or gills, on the under side of the *pileus*, or cap; it has

also a peculiarly delicate scent, while the poisonous species generally emit a rank and somewhat pungent odor, attended by a clammy or greasy excrecence on the outside.

How to make the Beds.—We will consider a suitable sized bed is four feet wide by ten feet long, which will require about one barrowful of material to each two feet in length. Collect for this enough horse droppings, fresh from the stable; place in a heap, in a dry and open shed, protected from rain; let them become somewhat, but not too much heated by commencing fermentation; when so, turn them over daily, still retaining the warmth, and the lumps as whole as possible. In ten or twelve days, they will become nearly dry and mouldy looking; next, cover the flooring of the bed with two or three inches of stable straw-litter; upon this lay the prepared droppings, to the depth of ten to twelve inches, after being made solid; and remember, that the more compact, the better chance there will be of success. In the course of two or three days, it is probable that this bed, so made, will begin to heat; and if it should do so enough to burn the fingers if put into it, make a few holes with a stick, which will soon cool it down. When there is surety that the warmth is on the decline, and has lowered to about 70° or 75° , break up some spawn into lumps of three inches cubic; plant one of each of these, at the distance of nine inches, just below the surface; afterwards, cover with two inches of turfy loam; beat and tread all down until quite hard and solid, and cover with any kind of soft hay or straw, excepting that from salt marshes. And here I would caution against allowing either salt or lime from coming in contact with any portion of the material used for Mushrooms, as these ingredients will most assuredly kill the plant. The most suitable temperature is from 50° to 55° , with a corresponding moisture in solution in the atmosphere. Mushrooms will not develop in a dry heat, while too much wet and cold rots the spawn. I am thus particular in mentioning these details, because not only this but all other fungoids must have their own and peculiar requirements present, or they will not prosper. With these, there is nothing more easily grown than our present subject, and what is recorded above, if strictly adhered to, will undoubtedly lead to success. A bed thus made and cared for, will commence bearing in five or six weeks after being finished, and ought to continue to do so for two or three months. If a regular succession be needed the year round, it will be necessary to make up a fresh bed once a month, and it only requires common intelligence, in addition to the above recorded ideas, to carry out the differences in the way of preparing the material according to the state of the weather. Sometimes it will be found that the young Mushrooms shrivel up while small, and consequently come to nothing more than clusters of small "buttons." This arises from one of two causes, viz: a deficiency of moisture, or by the covering lying too close, and thereby excluding the air. In the former case, the upper crust is dry, and crumbles between the fingers, when a sprinkling of clear water (enough to soak down about two inches) will remedy the evil; and, in the latter, if the surface be wet, the removal of and applying fresh covering, will answer the purpose.

Mushrooms can be also grown in pots or boxes filled with the above-mentioned materials, and in the same way. Pieces of spawn may also be planted under the surface of the soil inside any grapery not at work in the fall, when the probability is, a crop with more or less certainty, until the base becomes too wet by the requisite supply of water for starting the vines. It is well known that Mushrooms are produced in great plenty, naturally, in some localities where cattle feed in the fall, after a dry summer; and if we consider these conditions, it will readily be seen how many suitable places there are around a homestead where the object in view may be carried out, when the nature of the plant is understood.

Without investigation, it might appear that this, and all other fungoids spring up primarily as spontaneous productions. Observation, however, shows this doctrine to be false, for, at the mature state of existence, they discharge an immense number of sporules, or cellular organs, from the parent body, which will develop and increase, in many instances, with wonderful rapidity, according to the species, when they come in contact with suitable food and atmospheric influences. It is a demonstrated fact, that the common Mushroom may be propagated in this way, and which any person may prove, by scattering the black powder that is emitted from an overgrown head on the surface of some of the compost which the spawn is made of; but as this method is not practicable in a general way, it is better to obtain the required substance as above directed.

How to Cook Mushrooms.—Peel off the skin on the upper part; wipe them with a soft towel; rub the whole surface with softened butter; sprinkle some flour, pepper, and salt, over them; lay on a tin plate, and broil before the fire, or in the oven, until they are quite soft. Another way is to stew with a small quantity of milk, using butter, pepper, and salt, to taste. The great fault in cooking, generally, is not exposing them to the heat long enough, which makes them insipid, if not unwholesome.

To Pickle Mushrooms.—Choose the small, rounded "buttons" before they expand, as near equal in size as possible; put them into glass jars, after being wiped carefully and separately; fill up with hot vinegar, of good quality, in which is infused a little cayenne pepper, and some mace, allspice, or cloves, as fancy dictates; cork up tight, and they will be ready for use in two or three weeks.

To make Catchup.—For this purpose, the Mushrooms ought to be fully, or a trifle over-grown. If quite black, none the worse. Put them in an earthen vessel, and cover with a solution of salt and water; leave them covered up for two days, and then press them until all the juice is extracted; boil the liquor gently for an hour, and add any spice, to please. Sometimes, when the boiling has been insufficient, the catchup will not keep, which renders it necessary to be particular; fill into bottles, and cork up tight. If properly done, it will be good for many years.

[This article, from the pen of Mr. Chorlton, contains the best and most practicable modes of growing the mushroom, and supersedes the necessity of consulting any other treatise. We are constantly struck, as Mr. Chorlton proceeds, with the value of his articles on vegetables, and are entirely convinced that they would do well to be collected into a separate volume as a *vade-mecum* for gardeners and others.—ED.]

THE MAPLE AS AN ORNAMENTAL SHADE, AVENUE, AND STREET TREE.

BY D. W. RAY.

FOR symmetry of form, varied and interesting aspect of tree at different seasons of the year, for density of foliage, for beauty in the expansion of its buds in early spring, and in the many colored hues of its autumnal foliage, we have no native forest-tree that can compare with the Maple (*Acer*) family. We like the sober, gray look of its trunk and branches, even when entirely defoliated.

The Maple is nearly as useful to man as the plant of the sugar-cane, and annually produces, in this country, large amounts of sugar, much superior in flavor to that manufactured from the juice of the cane. The aborigines of the country understood its manufacture long before the landing of the Pilgrims, and the manu-

facture of sugar from the Maple is now extensively practised by the Chippewa Indians, in all their primeval style. It is usually made to barter with the whites of the frontier forts and stations, and finds a ready market at the confectioners, to be made up into toothsome preparations.

The Sugar Maple (*A. saccharinum*) is the only variety of Maple which is used for this purpose. This variety is the loftiest growing of the Maple family, and is found in this country, from Maine to Georgia; there are two varieties of this: one called Black Maple (*A. nigrum*), which is smaller in size, reaching only a size of fifty feet; while the other variety grows to the height of eighty to one hundred feet. The Acer family, like the *Quercus* or Oak, is very numerous, numbering some seventeen varieties, and about forty sub-varieties.

The principal varieties of the Maple which can be cultivated for ornament, shade, avenues, grouping, &c., are the (*Acer rubrum*) Red-twigged Maple, the Spike-flowered Maple (*A. spicatum*), the Striped-barked Maple (*A. striatum*), the Norway Maple (*A. Platanus*), the Sycamore Maple (*A. Pseudo-Platanus*).

The latter is undoubtedly one of the most ornamental of the *whole* variety of Maples. The longevity of the tree is from one hundred and fifty to two hundred years. As an ornamental tree, it may be planted in groups or avenues, but produces the best effect when planted singly, so as not to touch any other tree; the variety with variegated leaves is the most ornamental.

Nearly all the varieties of the Maple are rapid growing trees, forming dense, regular, and symmetrical heads, almost impervious to the rays of the sun.

Public opinion is much in favor of planting this tree as a park and street tree (also for avenues), from the fact that they are almost entirely free from caterpillars, worms, and all kinds of insects, retaining their foliage until quite late in autumn. I prefer Maples, as street trees, to elms or horsechestnuts.

I have seen villages and small cities, in Central and Western New York, whose street trees, in point of *beauty* of tree, density of foliage, and comfort of shade, will compare with many of the older settled villages of the East. Although they may not have the enormous size and venerable appearance of the American elms (*Ulmus Americana*) to be seen in Northampton, Greenfield, and Deerfield, Mass., yet they present a more varied, and, in the autumn, a more pleasing sight to the eye, covered as they are with their yellow and scarlet frost-tinted foliage. And when they shall have attained the gigantic size of their more favored brethren, they will attract the same notice and attention.

I am aware that all lovers of nature have some particular tree, plant, or flower, which they admire above all others. I confess to having a greater *penchant* for the Maple for shade, avenue, and street trees than for any other variety of forest-tree.

I still remember how oft, in our school-boy hours, we sought the refreshing shade of the Maple, and gambolled beneath its wide-spreading branches. I well remember, too, with what eagerness I sought and drank the delectable fluid given forth from its gigantic trunk.

Loudon says: "The wood of the Sycamore Maple is white, has a compost of a fine grain, susceptible of receiving a high polish, and easily worked. It does not warp, and is not liable to be attacked by worms or the borer, as is the case with the Locust."

I do not see why the Locust has been so extensively cultivated at the West, in forming artificial forests, in preference to the Maple. The latter is more rapid in growth; its sap is valuable for sugar; its timber brings a high price in market; it is valuable for fence posts, if the part to be put in the ground is slightly charred.

The time for planting the Maple is in early spring, or as soon before the ex-

pansion of the bud as may be. It will be found, in removing from the woods, that the trees will necessarily lose some of their fibrous and lateral roots; to obviate the danger arising from this loss at the time of transplanting, the top of the tree should be pruned, so as to take off as much in amount as the tree lost of the root in taking up, thus equalizing the circulation between root and top; this course will keep up the balance of the tree. The size of the tree to be transplanted in this manner, to insure safety, should not exceed two inches in diameter at the base of the stem. If trees of larger size are wanted, the best mode of procedure is to trench in a circle about the tree, the previous spring, to time of planting, cutting the trench at a depth sufficient below the surface, to cut off all the horizontal roots; the result of this severing all the main lateral roots, is the multiplication of the fibres upon the remainder; the fibrous roots are, in fact, the life of the tree. The tree should be then taken up the succeeding winter with a ball of frozen earth upon the roots, and planted in this condition. The manure to be applied to forest-trees should be composed mainly of leaf mould or swamp muck, and should be applied as nature applies it in the woods, as top dressing or mulch. This will insure their entire safety.

If our large cities and towns would eschew the planting of such trees as the *Ailanthus* and *Lombardy Balsam* or *Poplar*, and some other varieties I might mention, and plant *Maples* instead, it would add much to the beauty and pleasantness of their streets, and possibly increase the rent roll of many a miserly landlord.

HUMEA ELEGANS.

FOR purposes of general out-door decoration, or for planting round or near fountains or other ornamental water, the *Humea Elegans* stands unrivalled. Its gracefully drooping tresses of silky brownish-orange colored flowers, which glitter in the sun when moved by the breeze, give it a charm beyond description. It is not, therefore, to be wondered at that it should find favor with the many, or that inquiry should be made as to the best mode of growing it.

Although introduced from New South Wales nearly sixty years ago, it is only of late that this fine biennial has been employed to any great extent for out-door decoration. Whether, however, as forming a background to long flower borders, as a single specimen let into the lawn, or occupying the centre of a bed or vase, it is most charming; and not one of the least of its qualifications is that it may be had in beauty from May till November.

In the month of June, sow the seed in a pan of light soil, and place it in a warm frame until the plants are in rough leaf; then remove them to a cool frame where they can have plenty of air, and slight shading during hot sunshine for a fortnight, when they will be ready to pot off singly into thumb pots, using light rich soil, and plunging the pots to the rim in sand or sawdust, in a cool frame. Keep them close and shaded until sufficiently established, when they may be gradually exposed to sun and air; after that they will only require to be covered with a sash during cold or wet weather. Shift into larger pots throughout the autumn and following spring, as they require it, taking care never to let them become pot-bound, as their beauty is much lessened by being in any way stinted, either in pot room, moisture, or richness of soil. By means of liberal treatment, they will retain their foliage in a healthy green state until finally destroyed by frost. During winter, a low temperature, plenty of air, and being kept near the glass, suits those intended for planting out better than heat and a close atmosphere. Give plenty of water before turning them out of the pots, and also for a week or two after planting,

until they are fairly established in the soil, which should be turfy loam mixed with well-decayed manure or leaf soil.

When kept under glass to flower in pots for in-door decoration, they are not half so beautiful as when exposed to the open air; their color in doors being a kind of greenish-pink, gives the plants a sickly appearance. Slightly fumigating them during the spring months, will keep them free from insects, which are apt to infest them, especially the under sides of their leaves.—M., in *Gardeners' Chronicle*.

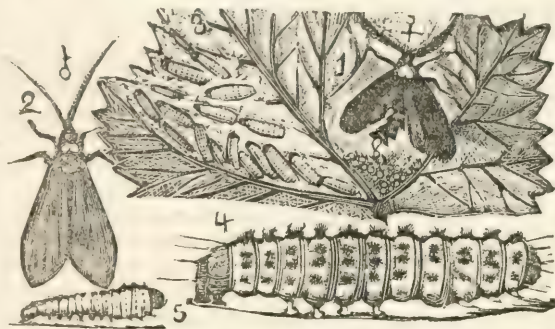
INSECTS, NO. 3.—ILLUSTRATED.

GRAPE VINE CATERpillars, ETC.

BY T. STAUFFER, MOUNT JOY, PA.

As early as the 6th of July, and as late as the 15th of September, we often find herds of small, greenish-yellow caterpillars on the under side of the grape leaves, feeding side by side, in considerable numbers. It is well, however, to observe that there are two distinct classes of gregarious larvæ found on the grape. Those of the *Procris Americana*, a Lepidopterous insect, and those of a species of saw flies (the *Selandria vitis*) belonging to the Hymenopterous orders.

Fig. 1 (♀) represents the female *Procris* depositing her eggs in the axils, and along the veins of the leaf. So intent are they, that they continue the operation



Procris Americana.

though the leaf be cut off and carried to some distance, as I have observed. The spot is first touched, perhaps with a portion of gummy fluid, and the eggs then deposited thereon, in succession, until some twenty-five or thirty are planted. Those, in the course of a few days, drop their lids, and the minute larvæ come forth, as seen (Fig. 3) on the same leaf. They undergo their several changes until matured.

Fig. 4 is a magnified view. They are cylindrical, with a few scattered hairs, with a transverse row of warts, armed with short, stiff, radiating, black prickles on each segment; head and tail, dark. They have sixteen feet. The female *Procris* (♀) is a wasp-like moth, with narrow, blue-black wings, a saffron-colored collar, and notched tuft of hairs on the extremity of the body. The male (♂), Fig. 2, is larger, has a yellow collar, and dark, fawn-colored wings; the antennæ scarcely toothed; those of the female strongly so, or pectinated. This replaces, in America, the *Procris vitis* of Europe, so destructive to the vine in Tuscany.

In their diurnal flight and general appearance, they approach the *Ægeria*; there is, however, no relationship in their transformations and habits. The larvæ of *Procris* devour the leaves of plants, and make their cocoons of coarse silk, of a flattened form and tough texture, found in crevices and under the leaves, being more like the *Phalænæ* in their habits, among which they are arranged by some naturalists.

This is also figured (except the male) Plate 6, and described page 78, *Patent Office Report* for 1854, wherein it is recommended "to destroy the caterpillars by syringing the leaves with a solution of whale-oil soap, and then trampling under foot those which fall to the ground, or by picking off the infected leaves by hand, when not too numerous." (The latter is my plan.) In reference to this subject, it is also mentioned "that the French have a method of destroying small moths in their gardens, by the use of cords dipped in honey, and stretched from tree to tree. These cords at the same time attract the insect by their sweetness, and entrap them from their adhesiveness."

Fig. 5 represents the larva of *Selandria vitis*, also a great pest to the vine; they are of a greenish-yellow color, tapering behind; an olive blotch on the last and front segments, each with two transverse rows of single spines, which are black, and more conspicuous on the first three rings, perfectly naked. Those have twenty-two legs, and, when fully grown, are about five-eighths of an inch in length.

The fly, or parent, is of a jet-black color, except the upper side of the thorax, which is red; legs, pale-yellowish; the wings with brown veins of a smoky color. These flies rise from the ground in spring, and lay their eggs. (See *Harris*, p. 370.)

The slug-worm (those little, snail-like, tadpole-shaped, slimy caterpillars), quite too common on our cherry and pear-trees, belong to the same family—*Blenno-campa ceraci*, or *Selandria cerasi*, the first name being most appropriate. A neighbor of mine saved a young pear-tree by dusting black pepper over them when the dew was yet upon the leaves.

[Mr. Stauffer is an accurate observer, and what is quite remarkable and interesting, he furnishes wood-cuts for his illustrations, made by his own hand. He has our thanks for these contributions, and we hope he will continue them.—ED.]

THE PEAR SLUG.

BY JOHN C. HANCHETT, SYRACUSE, NEW YORK.

IN the *Horticulturist* for September of last year, there appeared a very interesting article, from the pen of a lady, upon the natural history of the Pear Slug. I refer to it here, in order to make a slight correction in one particular—a correction, important only as the account is not strictly exact. "Their eggs," she says, "are placed, singly, within little semicircular incisions through the skin of the leaf, and generally on the lower side of it." This account is also given in Cole's *American Fruit Book*, and I am sure I have seen it elsewhere.

I inclose two leaves taken from a young pear-tree, which, you will observe, are covered with what appear to be small, perforated, white scales lying promiscuously all over and upon the upper surface. These are the remains of the eggs from which the young slugs have passed to their work, the perfect egg appearing simply like a perfect scale. It has been for my interest to watch the advent of these creatures for some years past, and I have found the first evidence of their coming to be the appearance of these scales, placed superficially upon the upper surface. I have never discovered any incision in the leaf, nor even an accidental deposit, in a single instance, upon the lower surface. There are evidences of nearly a hundred of these eggs having been deposited upon each of the leaves which I send you; and, from their number, you will readily and correctly surmise that the destructiveness of the insect, even in the first four hours of its existence, must be very great. Though the lower leaves of the tree are those chiefly upon which the eggs are deposited, yet, as you can judge from the sample before you, an entire tree would be speedily divested of its foliage, if the insects, as they increase in

their capacity for destruction, were left unmolested. Happily, if attended to in season, though their number be countless, as they were in the nursery from whence these leaves were taken, they can easily be arrested in their progress by the liberal application of slaked lime. It is by no means essential, however, as I see it universally recommended, that it be applied "when the dew is on." A moment's reflection will convince any one that (it being the *creature* and *not the leaf* that the lime is designed to assail) the dew must be unimportant if not an actual hindrance to its operation. Whatever lime is arrested by the dew-drops, becomes inert, and speedily hardens into a harmless mass, which the slug may pass over or avoid, at pleasure. When the leaves are dry, on the contrary, the lime which lodges upon them will be shaken off by the first agitation in the air, and a portion of it will be likely to find its way to the slimy back of some depredator that had hitherto escaped unscathed. Thus far, therefore, the presence of the dew interferes with the full execution of the design.

As great things are made up of small, so let the facts here stated, if found (as they are believed to be) "fixed" ones, take their position in the great aggregate of exact knowledge.

MANAGEMENT OF CAMELLIAS.

AN excellent paper in the *Midland Florist*, on the "Management of Camellias," contains the following advice: "In a general way, we can afford to cut all the shoots a good way back, some as far back as to leave only two or three eyes. Camellia japonica is a plant that wants great attention, or it will become ill-formed. The shoots at the ends of the branches start before the bloom has opened; the flower is the smaller and weaker for it; the new shoot takes up the growth, and merely lengthens the branch that is already long enough. And it is the same with the other branches; they all lengthen, no side and lower shoots come, the plant grows tall, without getting more bushy, and in two seasons is spoiled. When the spike next the bloom bud begins to push, remove it; never leave the end shoot on, unless you want to lengthen the branch. By picking them off, the whole strength of the plant is thrown into side shoots, branches, and flowers; but this is not all that is to be done. Shorten every branch that is too long; cut out any weak wood that clogs up and confuses the centre; make the plant of a good form, by cutting back whatever is ugly, and if the pot is full of roots, shift the plant into a larger one; but as Camellias are now set for bloom, and have done all their growth, set them in the shade. See that they do not want for water, and let them rest and harden. There are some plants that, like the Camellia, are out of bloom before it is safe to turn them out of doors; these must make their new wood in the house, and be well grown and perfected before they are turned out. The perfection of a turn is, however, under a canvas awning, like a tulip frame, because, when closed up, the sharp winds take no effect on them. With a convenience of this kind, most plants might be pruned and turned into the canvas-house, as they decline flowering; but they will require some attention. They must have protection from the wind, when north or east, and from the sun during the heat of the day; they must have all the air they can get, and in fine, genial weather, except the few hours of mid-day sun, they may be open altogether; they may also have warm showers, but they must be shut up in their canvas abode whenever the wind is high, and also when in the wrong quarter. When the plants have made their growth, they may be more exposed; still, they must not have the hot sun. But after all is said and done, the pruning is by far the most important operation, because, this done well, your plants will be handsome, however large

they grow; neglect this, and they will be barelegged, nothing but naked wood at the bottom, and totally unfit to show singly, even on your own shelves. What is the consequence? When you arrange your greenhouse for the winter, you crowd them, to hide their naked stems, and make bad worse. They may make a pretty bank of flowers, because you see nothing but their tops; whereas, prune them every year before they make their new wood, keep them well down, for the top eye or bud left is sure to grow the most vigorously, and for this you must make allowance when cutting back or pruning. As, therefore, you must, properly speaking, begin in the spring, prune everything as it goes out of flower; Hoveas, Acacias, Camellias, Correas, Chorozeas, Cytissus, Cestrum, Epacris, Nerium, Pimelia, and many others."

PEAR BLIGHT AND HONEY DEW.

BY YARDLEY TAYLOR, LOUDON COUNTY, VIRGINIA.

Is there any connection, either in cause or effect, between blight in pear-trees and the substance called honey dew? We have had both here, to an unusual extent, and the latter more largely on pear-trees than any other, though found on almost all kind of trees. I have two large pear-trees, planted more than thirty years ago (one a wilding), brought in from the fields when small, and planted in the orchard. This has grown freely, and was never affected with blight till this season, and now, large upper limbs, near two inches in diameter, are dead; two of the branches grafted, of late years, with the Bergamot and White Doyenné, are somewhat affected, but not so badly. The other tree was an ordinary fall pear, grafted on the root of a white thorn, and is probably now mostly on its own roots, as the graft was inserted beneath the surface of the ground, and the tree has grown freely but not rapidly. This is scarcely touched with the blight, except some of its upper branches that have been grafted latterly with other varieties, to bring them into early bearing. This tree exhibited the substance called honey dew, to a greater extent than I ever noticed before; the young shoots of the present year, the stems of the leaves, and the surface of the leaves themselves, in many places were literally covered with it, and it fell in drops to the ground. We have about one hundred varieties of pear now planted within the last ten years, and all exhibited this substance more or less. Even the forest-trees showed it on their leaves to an unusual extent, this season.

But what is honey dew? and has the cause of its production anything in common with what we may suppose to be the cause of the pear blight? Without assuming the affirmative, it might be well to examine the subject a little, and obtain what light we can on this or any other subject connected with vegetable growth. The most plausible theory that has occurred to me, is this: We know that in almost, if not quite all trees, the first flow of sap, in the spring, contains saccharine matter; this appears to be elaborated in the pores of the wood, from the matter brought up by the sap previous to the suspension of the circulation by cold. A long, regular cold winter, is most favorable for its production; hence the region 2° or 3° north of us, is better for sugar making from the maple than this latitude. But this winter here, has been, for length and for cold, more severe than they often have there, thus producing more saccharine matter here, in trees, than usual. The past winter has been one remarkable for sugar making in the Northern States. This saccharine matter, in the sap particularly, when abundant, might be supposed to obstruct the circulation, and even if not sufficiently to produce the blight, it at least does so enough to cause the leaves to fall off. The

observance of this fact first led me to examine the cause, when I found the young shoots with the stems and much of the surface of the leaves coated with this adhesive substance, which appeared plain to me must obstruct the evaporation of the sap from the leaves, and, at the same time, prevent the absorption of the carbonic acid gas of the atmosphere, thus producing a weakness in growth that caused many of the leaves to fall.* Perhaps the week or ten days of mild weather we had in the midst of winter, was favorable for the production of sugar in the sap, as it is well known that such weather after cold weather, is favorable for sugar making.

The wood of the pear-tree is hard and compact, and the pores small; and may it not be possible that, under certain circumstances favorable to a large production of saccharine matter in the sap, the sap may be so thickened by it as to stop the circulation entirely, and then putrefy? Large numbers of the small spurs on our apple-trees are affected the same way this year, disfiguring our trees very much and very generally. There must be a cause for this; and may not this be the reason why our fruit set so badly this year? Trees that were heavily loaded with bloom, scarcely set any fruit; indeed, I have seldom known so general a failure, except from late severe frosts; but, this season, we had none after blooming. Some suppose the failure was caused by rainy weather; but that does not appear satisfactory to me. We had rain, also, when our grape-vines were in bloom, and we have seldom had them to set so freely. I should like to hear, through the columns of the *Horticulturist*, whether the effect has occurred in other places.

It has very generally been supposed to be favorable to the blight, when, after a dry summer, a wet fall, favorable to late growth, occurs, and then an early and severe winter; but this was not the case the past season. We had both a dry summer and fall, no late growth encouraged, and the wood certainly was well ripened generally; the winter, it is true, set in early and pretty severe.

The following varieties of pear have suffered badly with us, this year: Messire Jean and Glout Morceau, Hacon's Incomparable, Easter Beurré, Doyenné Gris Jaune de hivre nouveau, Ananas d'Été, Beurré d'Esperen, on pear roots; and Swan's Orange, Belle Lucrative, Ananas d'Été, Beurré de Ranz, on quince. Slightly affected: Louise Bonne de Jersey, Napoleon, Bergamot, Urbaniste, Jargonelle, Bartlett, Heathcot, Surpass Vergalieu, Beurré d'Arenburg, and Ott; the remainder (amounting to upwards of ninety varieties) of those most recommended in the books, are uninjured. Our grounds are rolling, and naturally well underdrained.

VITALITY OF SEEDS.—Permit me to send you three seeds of some Coniferous plants, and also part of the cone, for your inspection. About a month back I had seven seeds given me by a Mr. Brown, who has had the cone in his possession upwards of nine years, and previous to that it formed an ornament for many years in a gentleman's hall in Yorkshire. It is probably forty years since it was gathered from the tree. About three weeks ago, I sowed seven seeds in a small pot, in a mixture of loam, peat, and sand, but, previous to sowing them, I cut a notch through the shell of each seed. They have all vegetated, and were potted off to-day in small and thumb pots. I always cut the rind of all the thick skinned seeds I may save to sow.—EDWIN FAN COURT. [The seeds and cone are those of *Pinus Pinea*, the Stone Pine.—*London Florist*.]

* This matter not being needed for growth in the formation of wood, was forced out through the pores of the leaves by the ascending sap, and not evaporating speedily, was left on the surface.

REPORT UPON GRAPES OF THE COMMITTEE AD INTERIM OF THE POMOLOGICAL SOCIETY OF GEORGIA.



As several varieties of grapes—some well known to all fruit growers, others imperfectly so, and some entirely new—have been from time to time submitted to the Committee, it has been thought advisable to report upon this fruit by itself, and in so doing, notice in detail all the native varieties known to us now cultivated. We shall strive to do this so fully, that any one under the impression he has a new grape can probably ascertain, from these descriptions, whether his fruit has already passed under the eye of the Committee, and, if it has, determine for himself its name; or, if it proves really distinct, he can so decide, and send it to the Committee, to report upon its qualities and value.

So far as we know our cultivated native grapes, all belong to three species: 1st. *Vitis rotundifolia* (*V. vulpina*, of Gray); 2d. *Vitis æstivalis*; and 3d. *Vitis labrusca*. The first of these species includes the "Muscadine" and "Scuppernong;" the second, the smaller fruited, juicy "summer grapes;" the third, the common "Fox Grapes."

1st. *Vitis rotundifolia* (*V. vulpina*, of Gray).—Stem, moderately large; perfectly smooth, even in the oldest vines. Leaves, small, seldom over three or four inches across; thin, smooth; shining on both sides, most so beneath; rounded cordate, not lobed; acuminate, very coarsely toothed; teeth generally larger and smaller, alternately; axilla of the nerves beneath, sometimes furnished with a small tuft of pubescence. Panicles, small, densely flowered, blossoming later than the other species. Berries, large, one-half to seven-eighth inch in diameter; black purple, or light green, without bloom, with a thick, tough skin; musky. Branchlets, minutely warty; (Scuppernong, Bullace, Muscadine, Bull Grape, Southern Fox Grape).

Individuals of this species often produce only male or staminate flowers; but upon examination, this season, of many vines, wild and cultivated, while in blossom, more were found female or pistillate only. So far as observed, all the bearing vines of the species had hermaphrodite or perfect blossoms, and the species is doubtless polygamous. All the blossoms observed were six-petalled and hexandrous. Of this species, the only cultivated variety is the

SCUPPERNONG, a native of North Carolina, now widely cultivated. It is not dioecious, as stated by Downing and other authors, but with perfect flowers. Tendrils, green. Bunches, very small, having generally two to four, and occasionally six, seven, or perhaps nine berries in a cluster. Berries, loosely set, large (five-eighth to seven-eighth inch in diameter), round. Skin, thick, light green, with minute brownish dots. Flesh, somewhat pulpy, juicy, of a honeyed sweetness, rich and luscious, of a somewhat musky flavor and scent. Berries, ripen gradually, and drop singly from the cluster when mature. The vine does not readily strike from cuttings.

There are said to be seedlings of this grape, with black and purple fruit, equal in quality to the Scuppernong itself. For ordinary culture—as it never rots, and is said to produce a good wine, it is probably the best single variety. Single vines cover an immense area of trellis, and sometimes produce over twenty-five bushels a season. Quality, "very good."

2d. *Vitis æstivalis*.—Stem, climbing, lofty. Leaves, rounded, heart-shaped, sublobately-angled; sometimes distinctly three or five-lobed, with rounded sinuses; acuminate, irregularly-toothed, or serrate, with the teeth mucronate; alternate ones often smaller. Above, smooth, or somewhat arachnoid (cobwebby), especially in their younger state; beneath, more or less downy, with loose, cobwebby hairs, either horny or fuscous (sometimes sub-glabrous); the youngest ones always more densely villous; old leaves generally smoothest; green above. Fertile panicles, compound, oblong. Blossoms, open after those of *Vitis labrusca*, and before those of *V. rotundifolia*. Berries, small, one-fourth to a little over one-half inch in diameter; round, rather closely set; commonly black or dark purple, with a bloom; generally pleasant. Varieties of this species display unusual diversity of leaf; but the cobwebby, instead of woolly or velvety down of the young leaves and shoots, their general likeness to each other in the form and compactness of the bunch, the usual freedom of the berry from muskiness and pulp, and its smaller size, generally render it easy to refer them to *Vitis æstivalis*. It already affords varieties which, if inferior in size of berry, are superior in flavor and excellence, more worthy of cultivation for table use, and quite as much so for wine as those derived from *Vitis labrusca*. It is also the most promising source from which to seek superior new varieties from seed. The wild species is called the "Summer Grape." The cultivated varieties are as follows: First, those usually three or five-lobed:—

1. *Devereaux*.—The only specimens we have seen were from Peters, Harnden & Co., of Atlanta, from which, and from three small vines set out this season, our description is derived, aided by notes from Dr. Baldwin, of Montgomery, Ala. It was found in the woods, over forty years since, by Samuel M. Devereaux, and first cultivated by himself and his neighbors, near Sparta, in this State. As Devereaux kept the stage-house, passengers soon disseminated it, being struck with the wonderful productiveness of the vine. It seems quite distinct in foliage. Younger leaves, sub-three-lobed, older ones distinctly lobed. The young leaves and shoots are light green (not brownish, as in the Warren). Leaves, moderately downy, distinctly arachnoid, hoary instead of fuscous. Bunches, quite long (those sent over nine inches), very much shouldered, compact. Berries, small. Skin, thin, black, covered with blue bloom. Flesh, free from pulp, and abounding in juice, of a color as darkly red as that of the pokeberry, of a brisk and excellent flavor. Quality, "very good." A prodigious bearer; hence, like the Warren, considerably liable to rot. (This is not the Devereaux of "Gardening for the South," which is the true Lenoir.) Ripens about the middle of August. The color of the juice is deeper than that of any other grape we know.

2. *Ohio*.—Leaves, large, three-lobed, deeply cut; young shoots, tendrils, and leaves, green, with no shade of red in them; somewhat hoary beneath. Shoots, long-jointed, strong. Bunches, shouldered, large, long, loose, tapering. Berries, small, round. Skin, thin, dark purple, with a blue bloom, without pulp, tender, melting, and sweet. "Very good," but, like the next, too small a fruit to be very desirable. Ripens just before the Warren. Origin, unknown. Fruit, from Richard Peters, Esq., Atlanta.

3. *Elsinburgh*.—It takes its name from a town near which it was found, in New Jersey. Mature leaf, dark green, five-lobed, deeply cut, but perhaps less so than the Warren. Leaf stalks and tendrils, more red than usual. Terminal leaves, brownish, with but little cobwebby down beneath, and none above. Nerves of older leaves, considerably downy. Bunches, shouldered, rather large, loose. Berries, quite small. Skin, thin, black, with a blue bloom; free from pulp, melting, sweet, and pleasant. Ripens nearly as early as Lenoir; distinguished from the Ohio by being not quite as good, by the leaves being five instead of three-lobed,

and by the brownish shade of the young shoots, leaves, and tendrils, which, in the Ohio, are green. Fruit, from Dr. Ward.

4. *Camaks*.—This vine (evidently a native) was one of those in the garden of James Camak, Esq., at his decease, some ten years since, resembling considerably the Warren, and being somewhat shaded and overgrown. Its distinct character, until the present season, was unrecognized. Its origin being unknown, we have named it after the energetic pioneer in horticulture in whose collection it was found. Leaves, three or five-lobed, deeply cut. Bunches, shouldered, long (seven to nine inches), loose, tapering. Berries, rather small (three-eighths to one-half inch in diameter), round. Skin, thin, light brownish-red, with a light bloom. Flesh, tender, melting, free from pulp, very sweet, and excellent. Quality, "best." Differs from Warren not only in the color of the berry (which is very much lighter), but in ripening more evenly, and in the general shape and character of the bunch, on which the berries are so loosely arranged that they will probably not be liable to rot. The vine, too, is evidently less rampant in growth. Fruit, from Dr. Jas. Camak.

5. *Warren* (Warrenton, Herbemont's Madeira).—It is pretty well established that this vine was first cultivated by Mr. Neal, a farmer of Warren County, of this State, living four miles from Warrenton, at least as early as the year 1800. In the early settlement of the county, he found the vine in the woods near his new residence, and transplanted it. Its productiveness and unequalled flavor attracted attention, and soon it became cultivated in Warrenton, and under the name of Warren and Warrenton, soon spread over the States, where it is now more cultivated than any other grape. In 1805, the late Prof. J. Jackson (formerly of Athens) found it growing under the name of Warrenton (from whence the cuttings were procured), at the farm of a Mr. McWhatty, in Jefferson County; and when he settled near him, Mr. J. procured cuttings from Mr. McWhatty's vine, and commenced its cultivation himself. In 1811 or 1812, Mr. Jackson carried cuttings to a relative in Laurens County, where the well known vine grower, Mr. T. McCall, of Dublin, first saw it in bearing. Obtaining it, he planted a vineyard about 1816, and in 1819 or 1820, Prof. Jackson spent a day with Mr. McCall, and drank with him his Madeira, made from this grape. About a year later, Prof. Jackson sent to his brother, in this place (Athens), rooted plants, from which most of those now cultivated here were derived. We believe the Herbemont identical with this vine, as vines in Clarksville, Ga., from Herbemont (also one obtained by Mr. Camak from Herbemont himself, while living, which is still in bearing), prove nothing distinct from Warren. As the latter name indicates the origin of the vine, and as, under this name and Warrenton, it was widely cultivated, at least twenty-five years before known to Herbemont, and as it is still known as Warren by nine-tenths of those who raise it, the name Herbemont should be dropped.

Vine, rather short-jointed for the species, though the most vigorous grower we have. Leaves, five-lobed, very deeply cut; youngest ones, moderately downy beneath, with a slight brownish tint; half-grown ones, very little arachnoid, of a light yellowish-green; full grown leaves (above), dark green, with nerves densely villous, making the leaf beneath a little hoary. Bunches, medium to large size (the best weighing about twelve ounces), shouldered. Berries, round, three-eighths to one-half inch, or over, in diameter, rather closely set. Skin, thin, very dark purple, with light bloom. If not closely pruned, the grapes on the same bunch do not color evenly, varying from light to dark purple. Flesh, tender, melting, entirely free from pulp; very sweet and pleasant juice, of unusual specific gravity. Quality, "best," for table or wine. An enormous bearer; quite subject to rot, but, even then, more fruit ripens than of almost any other grape. Generally allowed to overbear, and undoubtedly the best of our native grapes.

SECOND. Varieties of *V.estivalis*, with leaves sublobately angled, or sublobed; not generally with fully developed lobes.

6. *Lenoir* (Sumpter, Thurmond, Early Black, July Sherry, and Devereaux, of Gardening for the South). This grape, which has every characteristic of a native, is not named from its color, but was discovered growing in his hedgerow, many years since, by a gentleman named Lenoir, in Sumpter District, S. C. He at once brought it into cultivation himself, and distributed cuttings to his neighbors, and (as we learn from our informant, Col. A. G. Summer) it is in that section still more cultivated than any other grape. As this variety, in leaf, fruit, and time of maturing, is decidedly one of the most distinct and easily recognized of those in cultivation, it is evident that the grape known in Ohio as Lenoir, "which differs from Herbemont" (Warren) "only in being of more vigorous growth, wood light-colored, with a light blue cast," is doubtless the Warren itself—a more vigorous grower than which would be hard to find. Col. Summer, who has known the Lenoir for years, and that, too, in the place where it originated, pronounces the grape long cultivated here under the erroneous name of Devereaux, to be in leaf and fruit identical with the Lenoir, and since seeing the latter, we coincide with him in the opinion that it certainly agrees in every particular with the grape known as Lenoir in the nurseries throughout the State.

The leaf of Lenoir is of but medium size, and the most entire of the cultivated varieties of this species, being merely indented, and seldom even sublobed. Young leaves but moderately downy, with a slight brownish tint; the down of terminal leaf not fuscous; older leaves have a yellowish cast beneath, when quite mature, smoothish, and nearly free from the cobwebby down. Bunches, rather small, about six inches long, shouldered, making them some three inches broad at the base. Berries, averaging about four-tenths, but sometimes one-half inch in diameter, pretty even in size, rather compact, or crowded on the bunch. Skin, thin black, covered with a blue bloom. Flesh, sweet, juicy, with a brisk, agreeable flavor. A good bearer, and we have never known it to rot. Quality, "very good;" the birds would say *best*, as they take it in preference to any other grape. Ripe, early in August. Vine, resembles Long's more than any other; but by the less downy character and the yellowish tint of the older leaves, and the brownish character of the younger ones, in Lenoir, the two are easily distinguished, even in rows of cuttings. In fruit, the bunches of Lenoir average not two-thirds the weight of Long's. Berries, smaller, of darker color, and ripen three weeks sooner. Fruit, from Peters, Harnden & Co., Dr. Camak, and Dr. Ward.

7. *Long's*.—The parent vine was found, over thirty years since, by Col. James Long, in the woods of his plantation, near Danielsville, Ga. He removed the vine to his garden, and by himself and family it has since been retained as an esteemed variety, not subject to rot, and of great fruitfulness. A sparkling wine, of good quality, has been made from it.

Vine, of vigorous growth. Leaf, in shape, much like Lenoir, but more apt to be deeply indented; sometimes sub-three-lobed, of large size, thick. Young leaves, at first very hoary, with down, which, in the youngest, is a little fuscous; color of the leaf itself, a clear green, with no shade of brown or red; older leaves, always more cobwebby than any other cultivated variety, giving a whitish appearance beneath, quite distinct from the yellowish shade of Lenoir. Bunch, somewhat shouldered, very compact, of medium to large size, good ones weighing about twelve ounces. Berries, average larger than Lenoir, the best being a little over one-half inch in diameter. Skin, thin, very dark purple, with a blue bloom. Flesh, tender, very little pulpy, sweet, and vinous. Quality, "very good." Ripens last of August, or early in September. Fruit, from Dr. C. W. Long.

8. *Harris* (Old House Grape).—This grape came originally to this place from Iverson L. Harris, Esq., of Milledgeville, whose father, eating the fruit from a vine upon a tree near a deserted house, procured cuttings the next winter, and brought it into cultivation; hence it is sometimes called the Old House Grape. Vine, quite vigorous. Leaves, large, sublobately angled, or sub-three-lobed near the apex, which makes it quite distinct; more distinctly cut than the preceding, being sometimes three-lobed; the leaf has a yellowish shade, moderately downy—less so than Long's, and down less cobwebby. Old leaves, rather smooth. Bunches, medium, shouldered, compact; a little larger than Lenoir. Berries, round, three-eighths to one-half inch in diameter, averaging nearly as large as Long's and Warren. Skin, rather thick for the species, black, covered with a blue bloom. Flesh, little pulpy, sweet, juicy, and agreeable. Quality, "very good." A valuable variety, not subject to rot. Middle of August. Fruit, from Dr. Camak.

9. *Norton's Virginia*.—Leaf, sublobately angled, sublobed, and sometimes (but not generally, like Warren, &c.) fully three or five-lobed; green of the young leaves has a yellowish shade. Young shoots and terminal leaf above, and younger leaves beneath, with a fuscous (changing to hoary), cobwebby tomentum. Nerves, strongly marked, reddish beneath. Older leaves, nearly free from down. Bunches, long, occasionally shouldered; somewhat compact. Berries, pretty uniform in size, about four or five-tenths of an inch in diameter. Skin, thin, nearly black, with a blue bloom. Flesh, quite pulpy, vinous and harsh—not even "good;" not worth cultivating. Said to be a hybrid between Bland and Miller's Burgundy, but is totally unlike either. As Le Conte observes:* "Although, among some families of plants, hybrids occur naturally, or may be formed artificially, yet it is difficult to understand how this ever can be the case in the genus *Vitis*. In forming a hybrid, it is necessary to emasculate the flower we wish to produce fruit, and to impregnate its pistil with the pollen of some other species; this is impossible in the present instance, on account of the minuteness of the flower, and the parts of fructification." Nor is this all. He might have added another difficulty. The petals are caducous, and cohere at their tips, forming a little cap, which, in the act of falling off whole, draws over from one side or the other, almost invariably, the pollen from its own stamens upon the pistil. The chances then are, that an operator on so minute a flower, in the act of removing this cap, and then the stamens, would have already fertilized the pistil before applying the pollen of the species or variety selected. We would not, however, assert that hybridization, naturally or artificially, is absolutely impossible, but nearly so; and such being the fact, in general, Norton's Virginia gives us little evidence of being a special exception as any variety we know, being totally unlike its reputed parents, and agreeing sufficiently well in character with the species *æstivalis*.

Doubtless, the Delaware as well as other varieties not yet known to the Committee, pertain to *Vitis æstivalis*; but the foregoing are all that have yet come under our observation.

HON. MARK A. COOPER, *President*.—DEAR SIR: The Committee *ad interim* of the Pomological Society of Georgia, beg leave to submit the foregoing report upon the grape. They hope, by a further report upon the varieties of *Vitis labrusca*, the coming month, to close up the subject for this season.

WM. N. WHITE, *Chairman*.

Athens, Sept., 1857.

* See Proceedings Acad. Nat. Sciences, Philadelphia, February, 1853.

A DRESSED ROAD

MAY be made in this country with great advantage without the use of many evergreens. In a long approach to the house a bed should be deeply dug and manured as for a garden. Let it be eighteen feet broad, and as long as you choose; it looks best in a turn of the road, and, when practicable, there should be some point of view from which you can look down upon it. For such a bed select blooming plants that will give a succession of flowers all the season, and regard might advantageously be had to the fact that some plants require little or no water in average seasons, the only care necessary being to keep out weeds and have the ground frequently stirred. A fine example of this kind of beauty is exhibited at Mr. Joshua Francis Fisher's, near Philadelphia. We pencilled down the plants which compose it; the smaller growing kinds are to be placed nearest the road:—

List of Plants and Shrubs for a Dressed Border of some extent.

Spireas, all the varieties,
Roses,
Rhus Cotinus.
Altheas, for fall blooming,
Hollyhocks,
Fringe trees,
Lilacs, of sorts,
Syringas,
Deutzias,
Peonias,
Clethras, Alnifolia and Acuminata,
Colluteas,
Dwarf Horse Chestnut,
Lilies,
Hypericums,
Calycanthus,
Berberis, purple, &c.,
Dwarf Shining Willow,
Weeping Fountain Willow,

Hydrangeas, in shade,
Oak-leaved Hydrangeas,
Variegated-leaved Hydrangeas,
Chrysanthemums,
Dahlias,
Wiegelia Rose and Amabilis,
Upright Honeysuckles,
Cockscombs,
Small Thorns,
Petunias,
Verbenas,
Cornus Sanguinea,
All the hardy Yuccas,
Ardisia Fructo Albo,
Erica Vulgaris; is found to be hardy,
The Daturas may be introduced,
Buffalo Berry,
Stuartias, Virginica, and Marylandica.
&c. &c. &c.

Select plants of similar habit to the above, and in general those that attain but small height. There are numerous others, and, to render the scene attractive in winter, a few low growing evergreens should be interspersed, such as—

Arbor-vitas, of all the newer species,
Low growing Pines,
Small bushes, such as the Yews, &c. &c.

DOWNING'S SEEDLING GOOSEBERRY.

BY L. B.

OF all the foreign or native Gooseberries which we have had opportunities to taste, for some years past, from Canada to Delaware, no variety, in our opinion, can compare with Mr. Charles Downing's Seedling, obtained from the Houghton's seed some three years ago, establishing once more the fact once so startling to the pomological world—so much disputed and ridiculed—but, in our opinion, so perfectly logical, that “the artificial products of nature improve by successive generations of seedlings.”

The berries before us (which kept *ripe* for more than ten hot days without any sign of decay) are about double the size of the parent (Houghton's); pale, or light green, without any blush, and smooth. The skin is very thin, and the fruit



Downing's Seedling Gooseberry.

as delicate and tender as any European Gooseberry, in its native soil. The flavor and aroma are perfect; sweet, with plenty of vinous subacid. In enjoying a goodly supply of these berries, we, for the first time for six years, could not regret the relative and very marked inferiority of the best English varieties in our very different climate.

We experienced the same satisfaction as we did in tasting the Delaware and Rebecca Grapes, coming up so very nearly to the European standard as to be almost taken for good foreign varieties.

Let us have our *native* varieties of all kinds of fruit. Already the pear, the strawberry, the raspberry, and chiefly the apple, have come in handsome competition with, or superseded, their European relative varieties. We never could see, after those successful experiments, what could prevent us from having just as fine gooseberries, grapes, &c., and better, too, than the transatlantic products! Gentlemen amateurs! do try all kinds of seedlings; the *Phoenix* is yet in its "ashes." Patience alone, and (in the impressive words of our honored President, Col. Wilder) "eternal vigilance," can only bring out the desired results.

Thanks to Mr. Charles Downing for his constant efforts. The present seedling is one out of a lot of seedlings from the Houghton, but it is the only superior one in quality and size, as it is one of the finest erect bushes among this family; a vigorous and sturdy grower.

Like its parent, it seems rather more exempt from mould; we have indeed seen no disposition to moulding in any of these seedlings. We urged Mr. Downing

to let it be propagated; but, as usual, his modesty is rather in the way of his love of progress and improvement.

[Mr. Berckmans has our thanks for introducing the public to a knowledge of this important acquisition. The fact that it is "not yet propagated for sale," might be an argument for withholding it from publication, but this would be to go upon the plan of getting a stock before letting it be known; a mode too often adopted, but which can have no weight with a journal whose sole aim, in such matters, is to impart information. In this respect, the *Horticulturist* may be naturally supposed to differ from a work liable to be swayed by a commercial interest.

Houghton's Seedling Gooseberry has heretofore been considered one of the large (and most pro-

lific) kind, and we therefore give a figure of it to contrast the size with that of Downing's Seedling, which, it will be observed, is of much greater dimensions.—
Ed.]



Houghton's Seedling Gooseberry.

ON THE TREATMENT OF HYACINTHS, WITH REMARKS ON THEIR CULTURE BY THE DUTCH.

BY E. L.

HAVING had some experience in the treatment of this bulb, and a good knowledge of the Dutch system of culture, I forward you a few hasty remarks. The mode in use in Holland has been pretty clearly laid down in a work by St. Simon, published at Amsterdam some years ago, in which everything that can be, and a great deal more than need be, said on the subject is contained; it is now a scarce work, and may not be accessible to many who would otherwise be glad to consult it.

The compost used at Haarlem is rotten cow-dung, decomposed leaves, and fine sand. In making this compost, the Dutch gardeners prefer the softer leaves of elm, lime, and birch, rejecting those of oak, ash, chestnut, or beech, which do not rot so quickly. The cow-dung is from stall-fed cattle, without any mixture of straw or other litter. The sand is procured in the neighborhood of Haarlem, where the soil is a deposit of sea-sand upon a compact layer of hard undecayed timber, the remains of an ancient forest which has been submerged by the sea. The best sand is that procured by digging some depth. St. Simon imagines this sand possesses some peculiar virtue by the admixture of salt, and in this he is probably correct. The leaves are laid in a large heap, in a situation not much exposed to the sun, and not liable to stagnation of water, which is carefully drained from them. When fit for use, the compost is made thus: first they place a layer of sand, next dung, and then leaves, each stratum about eight inches thick, and they are repeated until the heap is about six feet high, a layer of dung being uppermost, sprinkled over with a little sand, to prevent the too powerful action of the sun upon it. After the heap has lain about six months it is mixed, and thrown up afresh, in which state it remains some weeks, to settle, before it is carried to the beds. This compost retains its qualities about six or seven years, but the Dutch avoid setting Hyacinths in it two years successively; in the alternate years they plant Tulips, Jonquils, Narcissuses, Crocuses, Fritillarias, Irises, etc., in the same beds; neither do they plant Hyacinths in the compost the first season, when the fresh manure might be injurious to them. The choice bulbs are taken up every year, and the soil that lay amongst the fibres is then carefully brought up to the surface. The beds should be deep enough to prevent the fibres coming near the subsoil. I believe that English sea-sand will suit the Hyacinth as well as that of Haarlem, and that old tan, if thoroughly decayed and pulverized, may be used instead of leaves, and I know some Dutch gardeners who use it themselves. The cow-dung should be as free from straw as possible, and without the admixture of any other kind, and completely decayed before it is used. The mischief occasioned by the fermentation of half-rotten straw, and the too great heat of horse-dung, etc., is a contagious decay amongst the bulbs, which will spread throughout the bed.

The beds should be made about three feet in depth with the compost, consisting of about one-sixth of rotten leaves or tan, two-sixths of pure sand, and three-sixths of rotten cow-dung. The compost should not be trodden down hard; but, the bed being opened, the bulbs may be ranged, and then carefully covered from three to five inches deep, but not pressed into the compost. If the situation be wet in winter, the beds may be raised six inches, or even more, above the level of the soil, to prevent the evil effects of moisture. The Dutch cover their beds with

dung or tan in winter, which they put on or take off, according to the state of the weather. The compost requires no additional manure till the expiration of about six years, when it should be mixed with fresh sand and dung, as before. When the Hyacinth leaves begin to wither, the bulbs should be taken up, the leaves cut off, and the bulb laid on its side, covering it lightly with the compost, about two inches thick; in this state they should remain about a month, then taken up in dry weather, and exposed to the open air some hours, but not to a powerful sun. They should afterwards be carefully examined, and all the decayed parts removed by a knife. The bulbs should be placed in the store-room, which ought to be airy, about the end of June; they must not be suffered to touch each other, and should be frequently examined, in order to remove those which may show fresh symptoms of decay. They will require keeping in a dry, cool, airy room; if damp westerly winds prevail, the ventilators should be kept closed. Before they are replanted in autumn, they should again be carefully examined, and all decayed parts and withered coats removed.

My experience prompts me to say that those who will take the trouble of following these hints may produce Hyacinth bulbs equal to those imported from Holland.

THE NEW GRENNEL VERMONT GRAPERY.

"THERE is a man now living (1828) who remembers a circular fruit wall at Shirburne Hospital (Durham), the wall with the fruit trees, and consequently wherein they were planted being movable, so that the trees might be turned to the sun, or removed from an unfavorable wind."

The above we copy from that excellent periodical, *Littell's Living Age*, where it has found room from some of those lurking places which the editor is always successfully rumaging. It notices an old invention, and doubtless a good one for those who can afford to practise it. But our object in copying it is to make it an opportunity for chronicling a newer patent, and one which has at least the semblance at first sight of novelty, and perhaps, of utility. Somebody down east has invented the very most curious grapery! which we should have noticed some weeks ago, but we confess we had some misgivings lest somebody or other should laugh at it or us; the model for the patent fell accidentally under our notice; we made a drawing of it, and, as happens with hundreds of other drawings, we laid it carefully away for something to give us an excuse to display it hereafter; but we are not destined to bring this procrustean grapery into notice, as it has been done for us by an eastern editor.

We submitted the plan to our able correspondent, Mr. Chorlton, good authority on the subject, and have received his reply, which we publish below; but, first, we must briefly say that the plan embraced the training the grape-vines on frames which open and shut like doors, so that when they are all swung they stand parallel to each other, the vines being so planted that when opening and closing they will not be drawn—that is, the lower stem is to be long enough to allow of being stretched. The vines are thus crowded into a small space, and the inventor claims economy in building, &c.

"NEW BRIGHTON, STATEN ISLAND.

"DEAR SIR: Your note, including a plan and description of a patented grapery, came to hand to-day. I have examined both very carefully, for I feel much interest in any construction which has the double merit of being practically efficient and cheap. The thing is certainly very ingenious, and, by planting the vines *precisely* as directed, the frames or trellises might be made to open and shut as described; but what of that; there is no advantage to be gained, for the exotic grape-vine would be subject to mildew in nine cases out of

ten, with so much exposure to the air, however much care might be taken to close up in the sudden changes; besides, there is no provision in the principle for any more plants than in the ordinary methods, and as each one has to be trained, first horizontally, and afterwards perpendicularly, there will be two seasons lost at the commencement. As to cheapness, I do not see in what it consists, for even allowing there may be some saving on first erection (which is not the case), there would be a great amount of labor incurred in opening and closing, and, unless this were well attended to on every change of cloud and sunshine, it would be better to have an open trellis outside, and cover with earth in the winter. Improvement and progress is my motto, but I really do not see anything in this but a gimcrack idea, and venture to say that its successful operation is only, so far, in the inventor's brain. He certainly cannot have had much experience, or he would know that a better and quite as cheap a structure can be erected. Such ingenious minds ought to be encouraged notwithstanding their practical defects, for we can sometimes draw an idea from their whims that may be turned to good account; but you may rest assured that this *hanging out* to air process will never do. It would be worth insertion for its novelty, besides its adaptability as a closed green-house in winter, which, with a slight alteration, might have the two ends to open as glass doors. This, with judicious arrangement, might be made a fine feature as a conservatory, but would this infringe upon the patent. By the by, who ever heard before of a patent horticultural structure?

"What could be more economical than using common building spars, cut and fixed double pitch, with wall-plate along the bottom, and posts driven into the ground deep enough below frost; board up one foot in front below the wall-plate, and likewise the two ends; cover this with common frame sashes, and boards running lengthwise hinged to the ridge as ventilators, and you have as cheap a house as can be made. If the vines were laid into wooden boxes, and two boards nailed V fashion, as a cover in the winter time, the sashes could be used for other purposes, thus answering a double purpose.

"Inclosed is the report of the Manchester (England) Botanical and Horticultural Society's last exhibition. I thought you would like to see it. This is my native place, and I have in my possession some 250 prizes, which were awarded to me by the Society.

"WM. CHORLTON.

"To J. JAY SMITH, Esq."

LEGENDS OF TREES, NO. 2.

BY WM. H. ALEXANDER.

"THE *Mistletoe*, particularly that which grows on the Oak, was held in great veneration by the Britons. At the beginning of their year, the Druids went in solemn procession into the forests, and raised a grass altar at the foot of the finest Oak, on which they inscribed the names of those gods which were considered as the most powerful. After this, the chief Druid, clad in a white garment, ascended the tree, and cropped the *Mistletoe* with a consecrated pruning-hook, the other Druids receiving it in a pure white cloth, which they held beneath the tree. The *Mistletoe* was then dipped in water by the principal Druid, and distributed among the people, as a preservative against witchcraft and diseases. If any part of the plant touched the ground, it was considered to be the omen of some dreadful misfortune which was about to fall upon the land. The ceremony was always performed when the moon was six days old, and two white bulls were sacrificed at the conclusion. In Scandinavian mythology, Loke (the evil spirit) is said to have made the arrow with which he wounded Balder (Apollo, the son of Friga (Venus), of mistletoe branches. Balder was charmed against injury from everything which sprang from fire, earth, air, and water; but the *Mistletoe*, springing from neither, was found to be fatal, and Balder was not restored to the world till by a general effort of the other gods. The magical properties of the *Mistletoe* are mentioned both by Virgil and Ovid. In the dark ages a similar belief prevailed; and even to the present day, the peasants of Holstein, and some other countries, call the *Mistletoe* the "spectre's wand," from the supposition, that holding a branch of

Mistletoe will not only enable a man to see ghosts, but to force them to speak to him. The custom of kissing under the Mistletoe at Christmas has been handed down to us by our Saxon ancestors, who, on the restoration of Balder, dedicated the plant to their Venus (Friga), to place it entirely under her control, and to prevent it from being again used against her as an instrument of mischief. In the feudal ages, it was gathered with great solemnity on Christmas eve, and hung up in the great hall with loud shouts and rejoicing.

“On Christmas eve the bells were rung ;
On Christmas eve the mass was sung ;
That only night in all the year
Saw the stole'd priest the chalice near.
The damsel donned her kirtle sheen ;
The hall was dressed with holly green ;
Forth to the woods did merry men go,
To gather in the mistletoe.
Then open wide the baron's hall
To vassal, tenant, serf, and all.’

“The *Holly*, like some other evergreens, has long been used at Christmas for ornamenting churches and dwelling houses. It appears to have been first made use of for this purpose by the early Christians at Rome, and was probably adopted for decorating the churches at Christmas, because holly was used in the great festival of the Saturnalia, which occurred about that period. It was customary among the Romans to send boughs of holly, during the Saturnalia, as emblematical of good wishes, with the gifts they presented to their friends at that season; and the holly came thus to be considered as an emblem of peace and good-will. Whatever may have been the origin of the practice of decorating churches and houses with holly, it is of great antiquity. In England, perhaps, the earliest record of the custom is in a carol in praise of holly, written in the time of Henry VI., beginning with the stanza :—

“Nay, ivy, nay, it shall not be, I wys ;
Let holly hafe the maystry,* as the manner is.
Holy stonde in the halle fayre to behold ;
Ivy stonde without the door ; she is ful sore a-cold.’

“In illustration of which it must be observed that the ivy, being dedicated to Bacchus, was used as a vintner's sign in winter, and hung outside the door. The disciples of Zoroaster (the author of fire worship) believed that the sun never shadows the Holly-tree ; and the followers of that philosopher, who still remain in Persia and India, are said to throw water impregnated with holly bark in the face of a new-born child. In the language of flowers, the holly is the symbol of foresight and caution.

“Our former selection of legends from Loudon's *Aboretum*, concluded with a quotation from an old Christmas carol in praise of holly, assigning to it a chief place in the hall, while ivy is made to stand without door, being ‘full sore a-cold.’ This suggests, as appropriate to our present gleanings, the mythological allusions to the latter evergreen.

“The *Ivy* was dedicated by the ancients to Bacchus, whose statues are generally found crowned with a wreath of its leaves ; and, as the favorite plant of the god of wine, its praises have been sung by almost all poets, whether ancient or modern. Many reasons have been given for the consecration to Bacchus of this plant. Some poets say that it was because the ivy has the effect of dissipating the fumes of wine ; others, because it was once his favorite youth, Cissus ; and others be-

* Mastery.

cause it is said that the Ivy, if planted in vineyards, will destroy the vines, and that it was thus doing an acceptable service to that plant to tear it up, and wreath it into chaplets and garlands. The most probable, however, seems to be, that the Ivy is found at Nyssa, the reputed birth-place of Bacchus, and in no other part of India. The ancient Greek priests presented a wreath of Ivy to newly-married persons, as a symbol of the closeness of the tie which ought to bind them together; and Ptolemy Philopater, King of Egypt, ordered all the Jews, who would abjure their religion, and attach themselves to the superstitions of his country, to be branded with an Ivy leaf. The Ivy is symbolical of friendship from the closeness of its adherence to the tree on which it has once fixed itself; hence, also, it has become a favorite device for seals, some of the best of which are, a sprig of Ivy with the motto: 'I die where I attach myself;' and a fallen tree still covered with Ivy, with the words: 'Even ruin cannot separate us.'

"The *Jasmine* is no less celebrated for the delicacy of its odor and flowers, than for the pretty love legend connected with its European history. The custom which prevails in some countries, of brides wearing *Jasmine* flowers in their hair, is said to have arisen from the following circumstance: A grand-duke of Tuscany had, in 1699, a plant of the deliciously-scented *jasmine* of Goa, which he was so careful of that he would not suffer it to be propagated. His gardener, however, being in love with a peasant girl in the neighborhood, gave her a sprig of this choice plant on her birth day; and he having taught her how to make cuttings, she planted the sprig as a memorial of his affection. It grew rapidly, and every one who saw it, admiring its beauty and sweetness, wished to have a plant of it. These the girl supplied from cuttings, and sold them so well, as to obtain enough money to enable her to marry her lover. The young girls of Tuscany, in remembrance of this adventure, always deck themselves on their wedding-day with a nosegay of *Jasmine*; and they have a proverb, that 'she who is worthy to wear a nosegay of *Jasmine*, is as good as a fortune to her husband.'"

THE CRACKING OF THE PEAR.

BY TERRA, NORRISTOWN, PA.

DEAR SIR:—I am a great admirer of your excellent journal, and though but the possessor of what you, perhaps, would call a very small garden, I reap a rich harvest from the field of your pomological and floricultural labors. I am chiefly interested in fruits. Though I have not the great collections I read of in the reports of the chief societies and conventions, I have endeavored to command a select list of good varieties, and derive a great deal of pleasure from their cultivation. My chief interest, however, is for my Pears, on which I have bestowed really a great deal of attention. I think there was nothing induced me to go into Pear culture so enthusiastically as some supremely delicious Butter Pears I once bought in the Philadelphia market, and one of my first purchases consisted of six specimens of that variety. When they commenced to bear, now six years ago, I was surprised to find the fruit all cracked and knotty, and unfit for a hog to eat. I was not then aware how extensively this disease prevailed, but soon learned from some friends, better posted than I was then, and also found that every one had his own special way of accounting for it. Every year since, as they increase in useless and virtue trying productiveness, I have half resolved to dig up and discard them, but have so far continued to hold on in the hope that I might by observation discover a remedy; or learn of some other person's success through

some friendly correspondent of the *Horticulturist*. But I can discover no cause that satisfies me, and I learn nothing from others; I have therefore decided to take out all but one next season, and in the mean time thought I would beg your indulgence to inquire of your correspondents if anything has been discovered in relation to the disease. I have watched them very closely, and invariably notice spots of brown, which under a powerful pocket lens, appear to be fungi, to make their appearance a few weeks before the fruit cracks. It seems as if it destroyed the vital power of the skin wherever it is produced, and as it thus ceases to grow it has no alternative but to crack open as the other parts grow and expand in its vicinity. The experience of the past two seasons seems to confirm this view of the cause. The season before the past was a very dry one; and I think there were fewer cracks than I ever observed before, and some half dozen fruit were perfect; this year being an unusually wet one, the fruit is cracked in every direction, and nearly to the core. Now I suspect that if the skin has been indurated by the fungus I have described, the wet weather being favorable to the swelling of fruit, would necessarily make the cracks deeper than they would be in a dry one. I would like to know whether any of your correspondents have had similar ideas. On the one specimen I propose to save, I intend next season to try the effect of some of the washes of sulphur found so efficacious by grape growers in destroying the vine mildew, which, I think, will test fully whether the disease is or is not caused by a fungus. I fear it will spread to other kinds. I have a young specimen of *Passe Colmar* which is now in its first bearing year with less than a dozen fruit, and all cracked, though not badly. I never heard of this variety cracking before, and began to be a little alarmed; but a friend tells me that in wet seasons some pears are liable to crack somewhat, especially *Winter Nelis*, without, however, injuring them to any great degree.

In supposing it possible that a fungus may cause the cracking of the butter pear, I am aware that I am opposing the belief of all the scientific men of our country, whom I think invariably believe that fungi are the consequence and not the cause of the disease; but so far as I have read the history of the vine disease in Europe, I think it is granted there quite generally, that it is caused by a small mould they call *Oidium Tuckeri*; and I cannot help thinking that there appears little disease in the fruit of our *Cockspur Hawthorn* previous to the attack of the yellow fungus which so disfigures them.

PRACTICE IN RUSTIC WORK.

BY AN AMIABLE CONTRIBUTOR.

THERE are some people who must be always cutting, notching, or carving with a knife. Sometimes they seek to perpetuate their precious memory by the formation of certain well-known letters in the bark of a tree, or any other surface which happens to be near. When their hands are not otherwise occupied, almost every bench can testify to the interesting fact that the owner of some name beginning with "A. B.," or "R. W.," once marked the spot with his presence, and left an impression behind him. Others, ambitious to give a touch of art to their productions, are absorbed for many a long hour in developing the head of a monkey, or a dog, on the top of what is highly esteemed as a walking-stick. There is really no limit to the number of juvenile ship carpenters, all more or less distinguished for cutting out their smacks, cutters, schooners, and other merchantmen destined to scale the mountain waves of the nearest ditch.

Let us not frown on these humble efforts, however they make us smile, but rather let us endeavor to give them scope and direction, so that the time and labor which would otherwise be wasted may be profitably and agreeably spent. Rustic work, such as relates to the construction of flower-baskets and flower-stands, is well suited for this purpose, for it includes both cutting and carving.

Those of your readers who have a little taste and spare time, could hardly do better than give it a trial.

In introducing this subject to notice, I send a sketch of one of the simplest flower-stands I have been able to find. It is intended to contain a plant in a pot, and to be placed either in an open corner or behind other plants. The construction of this *single stand* requires but little skill or labor, and the only point which needs particular explanation is that at *a*.

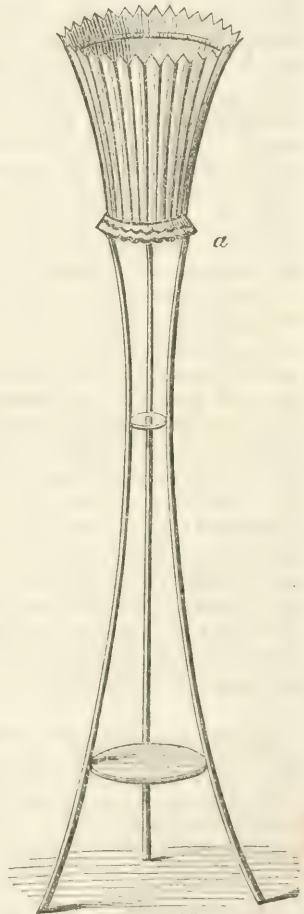
Here there are two different ways of working, in order to produce the projecting bottom. With the first of these two ways, the bottom is formed of circular boards, the *lower* projecting a little, by about half an inch beyond the margin of the *upper*, and on this latter the lath-like sticks or *ribs* are neatly nailed, after being properly prepared. The other mode is not so convenient, nor so much adapted, but it saves a little wood. It consists simply in carrying a narrow band of wood, or a branch, round the bottom of the ribs after they have been nailed on to the bottom. But before saying more about the construction of the stand, I wish to offer a few observations respecting the

MATERIALS.—The legs (either three or four may be used) are of the thickness of an ordinary walking-stick; sometimes they are a little thicker, according to the size of the top. It is almost unnecessary to say that any kind of branch will serve the purpose, but it is desirable to have all the branches of the same thickness, and as even as possible.

Birch will, perhaps, be found the best description of wood for the ribs, if it can be procured, but any other may be used.

Common deal board, about half an inch thick, is good enough for the bottom; but it is somewhat difficult to cut a piece of wood evenly round, except with a good saw made for this sort of work, that is, a small, narrow saw, having fine, sharp teeth. It may, therefore, be preferable to have the circular boards prepared by a carpenter, if there happens to be one at hand. Certainly, a handy person may make a shift with a sharp knife or a chisel, but neither is so good as a saw, when it can be obtained. A small brad-awl and some nails of different sizes will also be indispensable.

Begin work by preparing the ribs, cutting them to the same length, tapering them evenly towards the bottom, and pointing them at the end which is to be



uppermost. Keep them as nearly as possible to the same form, and cut the bottom end smooth.

When the ribs are neatly prepared, nail them on to the smaller of the two circular boards which is to form the bottom. If they have been properly prepared they should lie close to one another, and be as near as possible at right angles with the bottom; that is, they should not lie to one side, though sometimes in the process of being put together they may get out of place. It ought to be noticed here, that a ring or hoop, made of an osier twig, is used at the inside near the top, in order to keep the ribs in their places, and it is desirable to introduce it at once. Therefore, nail on two ribs, first of all, at exactly opposite points, and nail the hoop to them. In this way it is much easier to adjust all the others. But though this appears, at first sight, to be a very simple affair, it will be found that considerable care and nicety are required to have the ribs uniform and close together, with just the exact number wanted to fill up the whole all round. This is the point which proves the clever workman in such a form of stand, but, to be sure, so great nicety is not essential to its general appearance.

Now, the larger of the two boards is firmly mounted on the legs, which are nailed at equal distances to hoops, one near the bottom, and another near the top, as seen in the figure. But, instead of a hoop, a board may be placed near the bottom, and a flowering-plant or evergreen can be put on it when wanted.

The bottom of the basket, that is, the larger of the two boards at *a* having been properly "bevelled" at the beginning, is now neatly covered with the scales of Fir cones, arranged in an overlapping manner. Those quite close to the bottom of the basket will require to be shortened a little, and the whole may be either fastened with glue, or small tacks without heads; indeed, the nails in every case should be as small as possible. It is scarcely necessary to add more, for a little practice is better than a volume of directions. There is, however, one point yet which needs especial notice, that is, the process of preparing the branches for the ribs. Whatever kind of wood may be chosen, the branches should be cut into lengths of eight or ten inches, and laid up to dry for some time; if these lengths are without knots, so much the better; and if they cannot be evenly split, they must be sawn with a sharp "ripping saw," but they must be held quite firm while being sawn. For this purpose the hand will not be sufficient, and, therefore, some way of keeping them firm in position must be contrived. The most fertile cause of disappointment in all work of this kind is the want of proper tools, and the means of keeping the work firm and steady.

GRAPES.—We are greatly indebted to Mr. W. N. White, of Athens, Ga., for specimens of most of the grapes mentioned in the lucid and able report of the Georgia Pomological Society. The Chairman (Mr. White) has so fully described these, that he leaves us little to add. The Lenoir and Camaks are quite new; of the latter, there is but one vine, so far as known, in existence; both promise well. The Georgia grapes ripen in the following succession: 1, Lenoir, and nearly with it, 2, Harris and Elsinburgh; 3, Diana, Camaks, Devereaux; 4, Isabella; 5, Warren; 6, Catawba and Scuppernong; 7, Bland and Long.

THE CATAWISSA RASPBERRY.—This fruit comes quite up to its character the present season, having borne profusely, during August, on the new wood. Prof. C. G. Page, of Washington, D. C., says (in *Hovey's Magazine*) what is undoubtedly the fact, that he has realized in it a source of new varieties, and to such an extent, that ere long the Catawissa will be cherished only as a breeder. He adds: "I have now two seedlings of the second generation from the Catawissa, and while the fruit of both is superior to the original, the bearing term is extended far beyond it. We cannot but look upon its introduction as the dawn of a new era in raspberry culture. The varieties are generally more hardy than the Antwerp."





THE APPLE

MADEIRA SWEET

NEW APPLES.*

The Carolina June Apple.—Of this apple, we have had from private growers, more especially at the South, very favorable accounts; and we append the several opinions of well known cultivators at a late Pomological Convention:—

"Carolina June.—Mr. Phoenix, of Illinois, observed that it was widely known at the West and South, and was a fine fruit. Mr. Ernst considered it worthy of trial. Mr. Hodge had found it to succeed very well. It was fair, of good quality, and a little later than the Early Harvest. Dr. Brincklé had seen it the past season, and considered it very fine, and worthy of cultivation. Mr. Downing did not think it nearly so fine as the Early Harvest, and it was, with him, two weeks later in ripening. Mr. Negus, of Iowa, observed that it kept through the months of August and September, and was more handsome and salable than any other variety in his vicinity. Recommended as promising well."

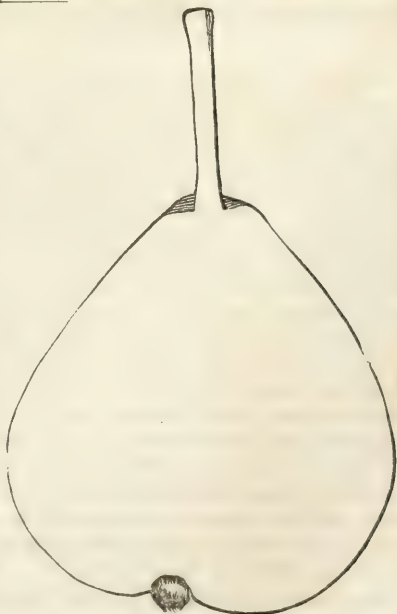
In the Southwest, the Carolina June appears to be really earlier than Early Harvest; but it has not so proved in New York, and other places at the North, where it is from one to two weeks later, and its flavor not so good as at the South. This is, no doubt, the effect of climate, the South suiting Carolina June better than the Early Harvest, and *vice versa*.

Meaverack's Sweet, or Maverick Sweet.—This description we take from White's *Gardening for the South*: "Very large, roundish, irregular, sometimes slightly conical, striped with bright red, sprinkled with greenish flecks. Stem, short, in a rather large, regular cavity. Calyx, open. Basin, medium. Skin, rather thick. Flesh, fine grained, tender, of sweet, excellent flavor. Ripens, November and December." Mr. White is a pomologist to be depended on; he furnishes us, this month, with the *ad interim* Report of the Committee of the Pomological Society of Georgia, to which we refer with great satisfaction.

POIRE PECHE (ESPEREN).

WE have been favored with specimens of this Pear by M. de Jonghe, of Brussels. The variety was raised from seed by Major Espéren in 1835 or 1836, and bore for the first time in 1845. The accompanying figure represents the form of the fruit. Skin, greenish-yellow. The flesh is yellowish-white, very melting, with abundance of rich, sugary, refreshing juice. In ordinary seasons, its period of maturity in this country will probably be near the end of August. The tree is vigorous, productive, and grafted trees soon come into bearing. The shoots are of a clear yellowish color, like those of the *Passe Colmar*; the leaves ovate, slightly acuminate.

Many of the early pears now in cultivation are dry and musky, and, on the whole, so worthless, that the trees ought to be destroyed, and replaced by superior kinds, of which one may be the *Poire Pêche*. It is hardy, and bears well as a standard.—*London Gardeners' Chronicle*.



* See Frontispiece.

CULTIVATION OF THE CALCEOLARIA.

The cultivation of the *Calceolaria* from the seed, requires a little extra care in the early state of its culture. To insure success in the raising of seedlings, it is requisite to attend to the following directions as early as possible. The seed should be sown in pots, prepared in the following manner: The pot to be half-filled with drainage, over that rough siftings of the mould, and the surface covered with soil as fine as possible, half of which should be composed of silver sand. When prepared thus, it should be watered with a fine rose, immediately after which sow the seed carefully, without any covering of soil. The pots should then be placed under a close frame or hand-glass, in a shady part of the garden, no artificial heat being required. In large establishments, of course, they may have propagating or other houses that will do, where the same kind of moist temperature could be obtained; but any exposure to the sun must be carefully guarded against by mats or paper. If the situation is of proper temperature, they will require watering very seldom. Directly the seedlings are strong enough, they must be pricked off in pots prepared as before, and placed in the same situation; from the store pots they will require to be potted off singly; after this the plants will grow very rapidly. Through the winter, the plants thrive well on the shelves, near the glass, in the greenhouses; and to obtain fine specimens, they must be shifted on freely till the flower-stalks have started, and should always be smoked with tobacco directly the green fly appears, as no plants in cultivation so readily suffer from this insect as the *Calceolaria*.

It is necessary to remark, that one of the most frequent causes of the appearance of these injurious insects, is the plant becoming *root-bound*; to avoid which evil, it is important that it should frequently be repotted during the growing season.

These remarks will apply also to the cultivation of the *Cineraria*, except that this plant is more hardy, and will thrive with less care.

ON THE SOIL MOST SUITABLE FOR GROWING THE RHODODENDRON. BY J. W.— Nothing suits the *Rhododendron* so well as good fibrous peat from an old common. The best specimens are planted in nothing else. The peat, in order to suit the *Rhododendron*, should have plenty of fibre in it, so that it may be taken up in large turfs without falling to pieces; in this they will be found to flourish amazingly. The beds may be five feet wide, and should have the soil thrown out about eighteen inches in depth, and the space filled up, and a few inches more added at top, with such fibrous peat chopped up small. If the soil where the beds are formed be stiff or clayey, drainage had better be provided for, as stagnant water is the greatest injury to this shrub than can exist. That they grow sometimes in boggy places in their *native* climate I am aware, and that even the swamps are dry for some distance from the surface in hot weather. The *Rhododendron*, however, requires a liberal supply of water when the sun has much power, as few shrubs suffer so much from drought; if we have the means of flooding the beds at such times, nothing can be better.

For pot culture, a little difference may be made in the soil by the addition of one-third loam from a rich pasture with the peat; this, well amalgamated together, and rubbed through a coarse sieve, answers well, although a little cow-dung, thoroughly decomposed, is strongly recommended by a friend who has grown this shrub in pots with decided success. With such soil for plants either in beds or pots, there is no difficulty in growing or flowering *Rhododendrons* in the greatest perfection.

EDITOR'S TABLE.

THE TIMES.—If anything were wanting to place the employments of country life in strong and favorable contrast with those of our great cities, it has been the crash of stocks, and pecuniary losses in the latter, since our last issue. We then recorded the general appearance of smiling faces among the country-dwellers; in a few days, all smiles faded from the cheeks of the city. Broken speculators, broken banks, broken *trusts*, merchants, manufacturers, railroads, and other corporations, were tripped up by events as unexpected as the tornado and hurricane. Country folks continue to exhibit countenances unsullied by anxiety, because they have kept within their legitimate business, and have not permitted body and soul to be absorbed in growing suddenly rich. The contrast is instructive: while the speculators' coffers are dried up, the farmer and gardener has his barns and his cellars teeming with the produce of his land, and has no one to make him afraid. Let the people take warning, and learn that the non-producer who endeavors to live without the labor to which man is doomed, is, in the end, the unhappy being now so often met with in streets and exchanges, borrowing money—his independence destroyed, and all but overwhelmed with a sense of his obligations to others.

THE RURAL WORLD.—A specimen number of the *Rural World* will be issued about the first of December. Of this number 30,000 copies will be published, to which the attention of advertisers is requested. Its price will be one dollar a year. Address the publisher of the HORTICULTURIST.

THE AGRICULTURAL EXHIBITION AT LOUISVILLE.—We have watched the proceedings of this Society with great interest, from day to day, as the papers brought the detail of its important events. Col. Wilder was, as usual, very happy in his speeches and his actions, giving spirit to the whole programme. For the details, we must refer to the published accounts, only remarking that the floral hall and pomological portions of the exhibition, appear to have excited universal approbation. The whole affair has marked an era of good feeling, and has been productive of so much emulation as to have inaugurated a new order of progress in the West. Who shall say as to what great ends this jubilee in the great valley may lead? When looking forward to the enlargement of the area of agriculture in that vast region, it is difficult to form correct ideas as to the importance it will attain. Situated between the extreme North and the extreme of the South, with steam to transport its products, and to receive returns to suit the wants of its inhabitants, the valley of the Ohio has a destiny—peopled as it is with intelligent men and women—which it would be dangerous to foreshadow, even in prophecy. The populousness of the valley of the Nile will have been its only counterpart; but, unlike that once happy region, our great valley has the blessings of Christianity and education, and, in the possession of these greatest blessings, is destined to prosper beyond the dreams of the most sanguine.

KEEPING GRAPES.—Dr. E. Liffingwell, of Aurora, N. Y., assures us that both himself and a neighbor have no more difficulty in keeping grapes than apples. Gather them carefully on

a dry day, remove all unsound or unripe berries, and pack them in small, shallow boxes, with paper on the bottom and between the layers; set them in a cool, dry place for ten days, when they will have passed the sweating process, and *then* close them tight, and keep them at a low temperature, without freezing. A dry cellar will answer. Dr. L. promises us the results of his experiments with sorghum, which we hope to receive. We are prepared to hear of many successes.

REBECCA GRAPE.—Mr. Brooksbank advertises, this month, the Rebecca Grape at reduced prices. Mr. Charles Downing says of the Rebecca: "Flesh of some consistence, juicy, sweet, and delicious, with a perceptible native perfume, but very agreeable. It has no toughness or acidity in its pulp, and ripens eight or ten days earlier than Isabella, and keeping a long time after it is gathered. This superior white grape is undoubtedly hardy. It is not so vigorous in its habit as Isabella and Catawba, and not disposed to mildew, and being exceedingly beautiful as well as excellent, it must be regarded as a very great acquisition."

BEAUTIFUL ILLUSTRATION.—The President of the British Association, at the late meeting in Dublin, introduced the following extraordinarily beautiful illustration: " * * In order that the *date palm* should ripen its fruit, the mean temperature of the place must exceed 70° Fahrenheit; and, on the other hand, the *vine* cannot be cultivated successfully when the temperature is 72°, or upwards. Hence the mean temperature of any one place at which these two plants flourished and bore fruit, lie between these narrow limits—i. e., could not differ from 71° Fahr. by more than a single degree. Now, from the Bible, we learn that both plants were *simultaneously* cultivated in the central valleys of Palestine, in the time of Moses; and its then temperature is thus definitely determined. It is the same at the present time; so that the mean temperature of this portion of the globe has not sensibly altered in the course of thirty-three centuries!"

THREE NEW BOOKS, of much interest to our readers, have been just published. Lorin Blodget's *Climatology of the United States*, admirably produced from the press of Lippincott & Co., of Philadelphia, will command the attention of the student no less than of the general reader. Statistics have prepared the way for this book, and Mr. Blodget seems to have been the right man to step in and tell us the results. Our pages, hereafter, will benefit by the work. It is a large octavo, of 534 pages, for four dollars.

Downing's *Fruits and Fruit-Trees of America*, revised and corrected by Charles Downing, has at last been published by Wiley and Halsted, New York. It is much enlarged, containing 755 pages, and we need scarcely say that it clears up many confused points with as great accuracy as was possible from the combined information of our best pomologists; introduces the new fruits cautiously and carefully; and is altogether the *vade mecum* of this country—indispensable to the fruit grower, and invaluable to the amateur. So far as we have examined the work, it is eminently satisfactory. The modesty of the reviser is a beautiful feature, and when we consider the amount of labor it has involved, and that for no selfish ends (the proceeds of the copyright being the property of the relict of the late A. J. Downing), no one can look upon the book without a feeling of admiration, and its purchase as a double pleasure. We regret that the index, on which great care appears to have been exercised, is yet somewhat imperfect. For instance, after examining there for the *Lenoir*, *Long*, *Devereux*, and *Thurmond* Grapes, and not finding any reference to them, we discover, at page 340, the following in the text:—

"*Lenoir*, *Long*, *Devereux*, and *Thurmond*.—Under the above names, grapes much resembling, in character, *Herbemont*, are grown in the Southern States, and we have hitherto

considered them synonymous of it; but all our Southern friends claim that Lenoir is a distinct variety, and much earlier than any of the others, and also, at least, that some of the others are distinct. The matter is now under investigation, and we must wait the result before deciding." By a curious coincidence, the *ad interim* Report from Georgia, and Mr. Downing's book, reached our table on the same day.

McMahon's Gardening.—The eleventh edition of McMahon's large octavo on *American Gardening*, illustrated, and with additions and alterations, to bring it up to the day, has been published by Lippincott & Co., of Philadelphia. It has had the careful examination of a practical gardener well known to the American public.

Patent Office Reports for 1856, 3 vols.

Sorgho and Imphee, the Chinese and African sugar-canes. By Henry S. Olcott. Illustrated. New York: A. O. Moore, 1857. The whole story is here ably told.

PART IV. of Dr. Hooker's *Flora of Tasmania* (4to., Reeve) has been published. It contains the Van Dieman's Land orders from Ericæ to Proteacæ, reaching the 320th page and 80th plate. No fewer than forty species of Epacrids are described, among which is a new genus, *Archeria*; Tasmania thus produces about one-eighth of the whole order.

MICHIGAN AGRICULTURAL TRANSACTIONS.—Mr. J. C. Holmes, the Secretary, will please accept our sincere thanks for a complete set of the Michigan Agricultural Transactions, which contain much of great value, and shall receive an examination soon. The volumes increase in bulk yearly, like a youth who is growing to manhood; should they go on growing, they will soon be giants. We would suggest to all public libraries the propriety and utility of collecting these State publications, which will transmit to posterity a history of our doings, better, perhaps, than any other species of printed books. They will be examined by antiquaries and commented on by our successors with eager interest; the improvements noted, and our—to them—odd beginnings will be a fruitful source of amusement sometimes.

GOSSIP.—What is the source of the vegetable matter conveyed to sterile soils, except the minute portion contained in the seeds wafted thither by winds or waves? a vast quantity has been produced, and is represented not only by the existing vegetation, but by the rich mould imparted to the soil by the decay of previous generations. The necessary materials exist in the air; plants possess the peculiar faculty of drawing them from the air; the air must have furnished the whole. If a bean be germinated on pounded flints or glass, and has attained all the development it is capable of under such circumstances, it will be found to weigh many times as much as the seed from which it sprang; a small portion only could be derived from the flints or glass; let its ashes, therefore, be deducted, and its carbon alone be taken into account. This element—which may have increased fifty or a hundred fold—can have been derived only from the carbonic acid brought to the plant by the rain-water and the air. Vegetable mould increases with the age of the forest, and the trees must draw from the air not only the carbon which their trunks contain, but the additional quantity which they impart to the soil in the annual fall of leaves.—A good writer in *Blackwood*, alluding to the paradox of the love of darkness manifested by some of the marine animals who congregate in caves or under rocks, says: "Let us be ignorant! Let us acquiesce in mysteries (when we cannot penetrate them), nor vex with noisy questionings the imperturbable reserve of nature, remembering the words of the poet, that 'fools rush in where gentlemen acquainted with zoology 'fear to tread.' " Describing the *Brittle Star*, he says: "You would never imagine how sensitive he is to an insult. Place but a finger on him, and he breaks up his dishonored body into fragments before your eyes. He thinks no more

of throwing away his legs and arms than a young lord in London thinks of squandering his acres. Professor Forbes was ready to receive one with his bucket, and a gorgeous specimen came up. Whether the cold water was too much for him, or the sight of the bucket too terrific, in a moment he proceeded to dissolve his corporation, and in every mesh of the dredge his fragments were seen escaping. In despair, he grasped at the largest, and brought up the extremity of an arm with its terminating eye, the spinous eyelid of which opened and closed with something extremely like a wink of derision."—A correspondent of a London journal says: "You appear to think it likely that sulphur will be found a cure for the potato disease. I think the fact that the murrain does not attack potatoes grown in the Swansea copper smoke, much strengthens that opinion; for the copper smoke contains a large quantity of sulphur, although it contains other materials. Land at Swansea, near the copper works, which was formerly barren and useless, now lets, I am informed, at £8 per acre, for the purpose of growing potatoes. I know that the ground in the neighborhood of the copper smoke is much valued for the purpose of growing potatoes, and that large quantities are cultivated there."—In reference to an article in a late number, a friend remarks: "It may not be uninteresting to observe that, in cases of famine, the roots (rhizomes) of ferns have, in former times, been employed for food. In the *English Chronicle* for 1377 to 1461, published by the Camden Society in 1855, I find the following passage (p. 55): 'And the nexte yeer aftir, the xii yeer of Kyng Harri, was the grete frost,' &c. * * * 'And the nexte yeer aftir began the grete derthe of corn in this land, the whiche endurid ii yeer, so that a bushelle of whete was sold for xld., and the poer peple in dyvers partiez of the North cuntre eet breed maad of farn rotes.'—*Thomas Bell, the Wakes, Selborne*.—Almost all the stinging hairs of plants end in a little knob-shaped swelling, which is exceedingly brittle, and easily knocked off by a touch. The opened point, on being pressed against, exudes the secretions contained in the cells, and these are often poisonous. The most dangerous of all is the *Urtica urentissima*, called Devil's Leaf. The wounds of this plant give pain for years after, especially in damp weather, and occasionally death from lock-jaw is the result. Could this poison be separated and collected, it would be the most powerful vegetable poison known.—The hyena-dog, from the South of Africa, is attracting attention abroad. There is no mane as in the hyenas, and the tail resembles that of some dogs; the head is hyena-like, and it has only four toes to each foot. Its color is reddish or yellowish-brown, variously mottled. It is swift, fierce, and active, and hunts in packs, at night by preference, but frequently in the day.—Anglers employ an infusion of the leaves or husks of English walnuts for pouring upon the earth, in order to procure worms, which it is said to bring speedily to the surface.—The receipts at the Crystal Palace, Sydenham, are stated to be so insufficient that the Directors have been driven to the expedient of proposing to raise the large sum of twelve hundred and fifty thousand dollars—a measure which only extreme necessity could justify. It is proposed to convert it into a grand picnic establishment; alas!—The process by which blood manure is made: Mix about two portions of bones, two of blood, and one of sulphuric acid together, and the result is a blood manure. Calcined bones are more easily acted on by the acid than fresh ones, and are therefore better for the purpose. The blood and bones are mixed together first, and then the acid is added.—What is the handsomest flowering hardy shrub for July? is answered by the *Gardeners' Chronicle*, by naming the *Spiræa callosa*, thus described: A shrub about four feet high, and as much in diameter, most gracefully branching from the ground; slender shoots of a dull red, and simple leaves of a quiet green, such as the most fastidious artist would select for a contrast with brighter colors. Then let every branch burst out its spreading twigs loaded with tiny flowers, arranged like those of a *Laurustinus*, but more loosely; the youngest dull red, and as large as a pin; others, more grown, with a vivid crimson centre when the gay petals are preparing to burst their dingy calyx, and

looking like rubies in a rusty setting. More mature, the crimson petals begin to spread, and reveal their still more rosy centres; and at last the ring of crimson stamens gradually unfolds, and forms a glowing halo round the centre. This description is as accurate as beautiful.—The clove is the unexpanded flower-bud of the *Caryophyllus aromaticus*, and has been known in commerce for two thousand years. The plant is a native of the Moluccas; and other islands in the Chinese seas. A fine tree has been known to yield one hundred and twenty-five pounds of this spice in a season; and as five thousand cloves only weigh one pound, there must at least have been six hundred and twenty-five thousand flowers upon this single tree.—The Elder has been supposed by some to be the tree on which Judas hanged himself. According to others, it was a fig-tree.—It was formerly believed, in Scotland, that the dwarf birch is stunted in growth, because the rods were formed of it with which Christ was scourged.—In Holland, there are many orange-trees which have been in the same family two hundred and three hundred years; one, at Versailles, has the inscription, "Planted in 1421;" one at Rome, in the Convent of St. Sabina, is said to have been planted by St. Dominic in 1200.—A gum-tree in Tasmania is stated to be two hundred and fifty feet high, with a diameter of thirty feet. This is reputed to be the oldest tree in the world.—Some persons have kept toads for pets. Dr. Townson kept one he called "Musidora," to guard his dessert from flies.—Dogs in a state of nature, it is said, never bark; their barking is an acquired habit—an effort to speak, which he derives from his association with man. Columbus found the dogs which he had previously taken to America, had lost their propensity to barking.—Scale and red spider may be destroyed by the following solution: Four ounces of quick-lime, and the same quantity of flowers of sulphur, boiled for a quarter of an hour in a gallon of water. This, when decanted, forms a clear, amber-colored solution; a single application to scale only is necessary, using a brush, and would require probably but a small admixture of water, if any. In the case of red spider, the solution, somewhat weakened, must be applied with a garden syringe, care being taken to reach the under part of the leaves as much as possible. It would discolor the paint of the house.

THE ADVENT OF MAN UPON THE EARTH.—The following passage from Hugh Miller's *Testimony of the Rocks*, is full of thought and truth: "Not until the introduction of man upon earth, do we find a creature whose works sensibly affect and modify the aspects of nature. But when man appears, how mighty the change which he effects! Immediately on his creation, he takes under his care the vegetable productions of use and show: it becomes his business to keep and dress a garden. He next becomes a tiller of fields; then a planter of vineyards. Here he cuts down great forests; there he rears extensive woods. He makes himself places of habitation; and busy cities spring up as the trophies of his diligence and skill. His labors, as they grow upon the waste, affect the appearance of vast continents, until, at length, from many a hill-top and tall spire, scarce a rood of ground can be seen on which he has not built, or sown, or planted, or around which he has not erected his walls or reared his hedges. Man, in this great department of industry, is what none of his predecessors upon the earth ever were: 'a fellow-worker' with the Creator. He is a mighty improver of creation. We recognize that as improvement which adapts nature more thoroughly to man's own necessities and wants, and renders it more pleasing both to his sense of the æsthetic and to his more material senses also. He adds to the beauty of the flowers which he takes under his charge—to the delicacy and fertility of the fruits; the seeds of the wild grasses become corn beneath his care; the green herbs grow great of root or bulb, or bulky and succulent of top and leaf; the wild produce of nature sports under his hand; the rose and lily broaden their disks and multiply their petals; the harsh green crab swells out into a delicious golden-rinded apple, streaked with crimson; the productions of his

kitchen garden, strangely metamorphosed to serve the uses of his table, bear forms unknown to nature; an occult law of change and development inherent to these organisms, meets in him with the developing instinct and ability, and they are regenerated under his surveillance. Nor is his influence over many of the animals less marked. The habits which he imparts to the parents become *nature*, in his behalf, in their offspring. The dog acquires, under his tutelage, the virtues of fidelity to a master, and affection to a friend. The ox and horse learn to assist him in the labors of the fields. The udders of the cow and goat distend beneath his care far beyond the size necessary in the wild state, and supply him with rich milk, and the other various products of the dairy. The fleece of the sheep becomes finer of texture and longer of fibre in his pens and folds; and even the indocile silkworm spins, in his sheltered conservatories, and among the mulberry-trees which he has planted, a larger, and brighter, and more glistening cocoon. Man is the great creature-worker of the world—its one created being, that, taking up the work of the adorable Creator, carries it on to higher results and nobler developments, and finds a field for his persevering ingenuity and skill in every province in which his Maker had expatiated before him. He is evidently—to adopt and modify the remark of Oken—God's image 'manifest in the flesh.'

THE FRENCH GARDENERS.—These industrious gardeners, especially around Paris, pursue a simple plan, which they find advantageous, paying attention to a few special plants for which there is a regular demand. The plan will prevail here as we arrive at a more extended population. Division of labor follows high civilization, as we see in our stores and shops. Formerly, when cities contained but a few inhabitants, the store contained dry-goods, hardware, and groceries, with a large sprinkling of nick-nacks, and perhaps an ox or goose-yoke or two. Now the cloth or silk merchant disdains to sell knives, and the hardware merchant would know about as much of the quality of silks as the butcher. This plan of having *specialties* has many advantages, not the least among which is the perfection that may be obtained by studying and practising a particular line of business.

The French gardeners, in the faubourgs around Paris, possess from a quarter to one acre, where everything is done on the most economical plan. To save expense in heating, &c., the plant-houses are built two, three, or four feet below the surface, exactly like span-roofed pits; the front or south lights are glass, and the back is simply constructed; in this country it may be of very common boards, with an interspace filled with tan or covered over thickly with leaves in winter. No other means of warming is employed. Such structures are quite common in Burlington, N. J.—so much so as to make it quite noted—and in these fine plants are bloomed, and lemon and lime-trees fruited in great perfection.

Each French gardener grows only ten or fifteen kinds of plants, to bloom in succession, that his energies may be concentrated upon one thing at a time, and thus what is done is done well. One will attend only to camellias, azaleas, roses, orange-trees, and hard-wooded plants; another, to ericas, epaeris, pelargoniums, &c.; another to violets, pansies, carnations, &c. All who have been in Paris, in the season, will remember the exquisite perfection of the moss-rose buds and flowers sold in the shops and streets; these form one specialty, and the earliest come from such houses as we have described. It is no uncommon thing to find in one of these little gardens 10,000 or 15,000 camellias, and in another as many roses or crassulas. From such spots issue the bouquets so exquisitely grouped, and with such harmony of colors, that the work assumes the character of a fine art; it is, in fact, the result of study assisted by practice, by a people who, of all others, have the best taste for colors.

These hints are thrown out for imitation, and are from notes on the spot.

THE Hybrid Lucombe oak, having now attained sufficient age to be felled, is pronounced to possess more valuable wood than the best English oak, being heavier and stronger.

CATALOGUES, ETC., RECEIVED.—Regulations and List of Premiums of the Seventh Annual Wisconsin State Fair, 1857, to be held at Janesville. This came too late for notice last month, and before this reaches our Wisconsin readers, the fair will be almost or quite over.

Descriptive Catalogue of Strawberries, comprising the collection of W. R. Prince & Co., Flushing, L. I.

W. R. Prince's address to the American Institute on the Chinese Potato—*Dioscorea Bata-tas*. If this esculent has the great value in this country, attributed to it by the French reports, it is time we had efficient specimens in plenty. Thus far we have been unsuccessful in propagating it to any extent.

Annual Catalogue of Grape-vines, for sale at the Vinwood Grape Nurseries, Ilion, Herkimer County, N. Y., J. D. Ingersoll, proprietor, 1857, 1858. This list embraces all the esteemed varieties, at moderate prices.

Wholesale Catalogue for Autumn of 1857. Du Page County Nurseries, Napierville, Illinois, Lewis Ellsworth & Co., proprietors. This comprises a large and valuable stock, to which it affords us pleasure to call attention.

Complete Set of the Transactions of the Michigan Agricultural Society, commencing in 1851. Most portly and interesting additions to our library shelves.

Descriptive Catalogue of Fruit and Ornamental Trees, &c., for sale by W. T. & E. Smith, Geneva, N. Y. This is a carefully prepared and valuable catalogue, embracing a great variety of the best stock.

W. R. Prince's Select Catalogue of Bulbous Roots. Ditto. Descriptive Catalogue of Strawberries, 1857-8.

BULBOUS ROOTS.—Mr. A. Bridgeman, of New York, advertises a large stock of bulbous roots, including a number not generally kept for sale. His catalogue may be had on application to 876 Broadway.

J. M. Thorburn & Co.'s Descriptive Annual Catalogue (1857) of Bulbous Flowering Roots, with Directions: No. 15 John Street, New York. A grand collection, indeed.

New York Horticultural Society's Schedule of Premiums for the Exhibition, which closes to-day, October 1. This came too late for notice in last number, and of course, from the date, we have to regret that the present issue contains no account of the doings transpiring while our number is sailing about through all the post-offices of the land.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, cultivated and for sale at the Marshall Nursery; Manly & Lowe, Marshall, Clark County, Illinois. It is very pleasing to see such extensive lists from the interior. We are making a curious collection of all the catalogues of the country, for binding and preservation in a public library, and shall be pleased to receive all that are published.

Wholesale Priced List of Trees and Shrubs. Nursery of G. W. Strong, Nonantum Hill, Brighton, five and a half miles from Boston. For the fall of 1857. Apparently a well selected stock, and certainly not unreasonable.

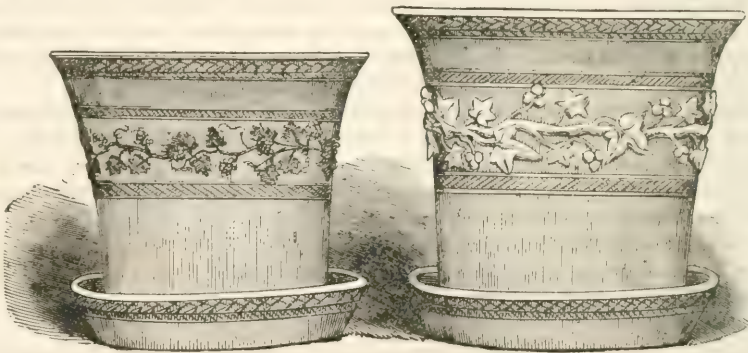
MR. PEABODY has been awarded a gold medal, of the value of fifty dollars, by the Alabama State Agricultural Society, "as a testimony of their high appreciation of his success in the propagation of his seedling Hautbois, and bringing the culture of the strawberry to such perfection."

A VALUED correspondent writes thus: "It belongs to the mission of the *Horticulturist*, as I understand it, to teach Americans that the highest beauty and the highest utility are inseparable. Its influence illustrates the hidden sense of the old myth that the goddess of beauty was wedded to Vulcan, the god of practical ingenuity. It has already accomplished so much in this direction that, to me, a journey by steamboat or railroad is like turning

over the leaves of one of my bound volumes of this 'Journal of Rural Art and Rural Taste.' On every hillside are seen unmistakable embodiments of ideas and suggestions put forth by it. Attractive and convenient homes are rapidly supplanting architectural caricatures; vineyards and orchards are thriving where burdocks and thickets once deformed the fields. As faithful bishop of a large horticultural diocese, you will some time, I trust, be present at a meeting of our 'Rural Art Society,' now cutting its wisdom teeth in garden craft, the suggestion for which comes, I think, from your work."

MANAGING LILACS, ROSES, AND HONEYSUCKLES.—A writer in the *Gardeners' Chronicle* says: "If taste and a knowledge of colors are observable in the distribution of the plants in the flower borders, we may also perceive a certain degree of skill in the peculiar method practised in France of pruning and managing the Persian lilacs and the few other shrubs that are cultivated. The roses and honeysuckles are annually headed back and pruned very close to the stem. The lilacs are nice bushy half standards, having their branches so thinned and regulated that none either cross or interfere with each other, nor extend beyond a certain distance from the stem. In the winter pruning, all the young twigs are removed except the one at the end of the branch that is left for flowering, and towards the end of April and beginning of May, they have a splendid appearance. Immediately the flowers decay, the twigs that bore them are pruned back, and the branch made to send out a fresh shoot for flowering the following season; by this mode of treatment the bunches of flowers, although by no means so numerous, are very much larger and finer than any we are accustomed to see."

FLOWER POTS.—The two conservatory flower pots here figured, are from a German manufactory (that of Edward Saelzer), and must be admitted to be in fine taste; they are ornamented, with wreaths painted in gay colors, and are altogether superior, both in quality of material and in their ornamentation, to most that are imported from abroad. The pattern



CONSERVATORY FLOWER POTS.

could be advantageously adopted in a more simple material. We do not despair, when horticultural societies adopt premiums for such things in their schedules, of having manufactured in America patterns that one can bring into a parlor; to this end, good models are needed.

FRUIT.—Mr. Isaac B. Baxter, long a valuable member and successful exhibitor at the Pennsylvania Horticultural Society, laid on our table early in September very fine specimens of the following pears: Golden Beurré of Bilboa, Washington, and Julienne, with

some plums; the Reine Claude were especially delicious, and the whole highly creditable to the grower's skill. The beautiful little Washington pear is an especial favorite, excellent and highly ornamental when ripe.

EFFECT OF THE STOCK UPON THE GRAFT.—I have a word to say in relation to the effect of the stock upon the graft.

About thirty years since, my father grafted two apple-trees of some size, with scions taken from the same tree, and of the same variety (Little Core). The trees stood on precisely similar soil, and within a few rods of each other; but the original fruit on one was sweet and dry, while the other produced juicy and quite acid fruit. The produce of the graft exhibited a marked difference in form, flavor, and color; the sweet stock yielding fruit more marked with red, drier, less acid and firmer in texture than the other.

One of the trees is now dead, or I would send you a specimen of fruit from both. I am not able now to refer to the query mentioned by Mr. Huling, but it is a common remark, that "there are two kinds of Greenings," and there is really so much difference in the Rhode Island Greening on different trees in this vicinity, that I am not surprised at the general belief in two varieties, and I am not able to *prove* that it is not correct, yet I am convinced, by several years' observation of all the facts within reach, that the difference is wholly due to the effect of the stock upon the graft, and that this variation has been continued and increased, as suggested by Mr. H., until, in some cases, the fruit would hardly be recognized.

In conclusion I have a question to propose. If scions of a fine buttery pear were grafted on a stock of opposite character, and this regrafted with a third, which of the first two would produce most effect on the last? Yours truly, WM. F. BASSET, *Ashfield, Mass.*

THE Great Conservatory of the London Horticultural Society's gardens is about to be devoted to the growth of grape-vines. For these a border four feet wide has been made all round the outside of the house. It is bottomed with brickbats, over which are laid nine inches in depth of rough gravel for drainage, over that again are laid turfs broken a little with the grassy side downwards, and on these is put the soil in which the vines are to be planted. This consists of good sound loam mixed with burned turf which has been well soaked with liquid manure. Mr. M'Ewen is of opinion that vine borders should never be made wider than four feet at first. His plan is to widen them in proportion to the growth of the vines, and the outward extension of their roots. The latter have thus fresh soil applied to them at a time when they most require it, whereas if the border was made its full width at once, the soil on that side of it furthest from the house would be comparatively worthless for the support of the vines long before the roots had reached it. The advantage of making borders piecemeal will therefore be apparent.

THE *Berberis Dulcis*, sweet Barberry, is thus alluded to by Dr. Lindley:—

We have to thank the kindness of a New Hampshire correspondent, "A. W.," for some fine specimens of the fruit of *Berberis Dulcis*, a hardy evergreen shrub that bears profusely near Shirley. The branches are loaded with berries of the deepest purple, many of which are fully half an inch in diameter. When quite ripe they are said richly to deserve the name the species bears, but it is difficult to prevent birds carrying them off before their sweetness is formed. Berries of *Berberis Darwinii* accompanied them, but we fear that no time or sunshine will convert their acid into sugar. In the meanwhile, *Berberis Dulcis* may now be fairly placed among the smaller table fruits, along with currants, gooseberries, and their allies.

KEEPING LATE PEARS in large glass jars answers a good purpose. When the pears are gathered from the trees they are laid in the fruit-room for a week or ten days until they are quite dry. Each pear is then wrapped in paper and placed in the jars. When there is not sufficient fruit of one sort to fill a jar, then a late kind is put at the bottom and an earlier sort at top; when the jars are filled, they are stopped up and sealed; the name of the sort or sorts is written on a label, which is fastened to the handle. They are then all placed in the fruit-room, where they remain until used. Late kinds kept in this way, when used in March and April, were most excellent.

ALBANY SEEDLING.—Mr. John Wilson, of Albany, N. Y., will accept our thanks for fine plants of the Albany Seedling Strawberry, to give an opportunity of testing its merits, which we shall do.

VINE DISEASE.—In Mr. Buchanan's valuable "Calendar" of last month, he gave a melancholy account of the loss of the crop of grapes at Cincinnati; the news from Portugal is also unfavorable.

ANSWERS TO CORRESPONDENTS.—CEMETERIES.—"In a cemetery in the country, where the population is limited, and where it will be necessary to depend mainly on beautifying and improving the natural advantages of the grounds, and not on extensive inclosures and monuments," it will be well, in the first place, to remove all unsightly trees and objects of every kind; to make only the necessary walks, as future expense will be thus avoided, and to plant such trees in variety as will permanently adorn the place, and be suited to the climate; the greater the variety, provided they are properly chosen, the better. Neatness and cleanliness follow as a matter of course; select a superintendent who has a good eye to order, and who possesses some knowledge of trees; if he has not this requisite, he must be overlooked by a president or manager who has.

"The best mode of inclosing the outward boundaries" will be found to be stone, and it will be the cheapest in the end. It may be either a dry wall, or made with ordinary mortar; where it supports a bank of earth it should be laid on a deep foundation, and be made amply thick; such banks are constantly pressing outwards, and this process is assisted by the alternate freezing and thawing.

"Indicating single lots without inclosing with a fence, railing, or hedge," may be simply effected by placing a square marble block at one or two corners of each lot with the name or number carved on the top. This block need not project more than an inch or two, and if it is sunk to a level with the ground, it will be out of the way of the scythe—an important consideration in a place that of all others should be kept regularly mowed.

"For a hedge for single lots," the holly, if possible; if not, the various arbor-vitæs, especially the American and Siberian. See our former essays on cemeteries, in the *Horticulturist* for last year.

(W. W.) The plant No. 1 is the Stagger-bush, *Andromeda Mariana*, growing in sandy, low places from Rhode Island to Virginia; the foliage is said to poison lambs and calves. No. 2 is Samphire, *Salicornia herbacea*. It is found along the Jersey sea-coast, in salt marshes, and at Salina, N. Y., and at other interior salt springs; so that Shakspeare's "dreadful trade" can be followed in America without risk. Name from *sal*, salt, and *cornu*, a horn: saline plants with horn-like branches. It is used on the English coasts as a pickle, and is quite good for that purpose; with the vinegar, it turns to a lively red color, something like red cabbage.

TRAINING THE DOG.—Col. Hutchinson's new work on training the dog (respecting which, several gentlemen have written to us, in consequence of a former short notice), is an English

work, and has never been published in this country; it might be, however, to some book-sellers' advantage.

Horticultural Advertiser; Seneca Lake, Highland Nurseries. E. C. Frost, Havana: New York. This is an advertising sheet of Mr. Frost's Nurseries, and looks like a newspaper. This may be a good mode, but we cannot believe the plan equal in value to an insertion in the pages of the *Horticulturist*, which reaches thousands of those most likely to want Mr. Frost's goods. We have heard the expression, "every man his own washerwoman," but "every man his own advertiser," is at least novel.

(T. T. S.) The exhausting action of fruit is illustrated by the well known fact, that when plants cultivated for the sake of their flowers only, are permitted to ripen their fruit, the power of flowering in a succeeding season is diminished. This is seen in rhododendrons and azaleas. When the rhododendron goes out of flower, it forms clusters of seed vessels, which swell during the summer, and by the autumn become ripe; and they arrive at their size by feeding upon the organizable matter formed in branches, during summer, by the leaves. This organizable matter, if not consumed by the seed-vessels, is stored up, and applied to the formation of flowers; if it is consumed in the creation of fruit, it is abstracted from whatever means the plant may have of generating flowers. It is therefore obvious, that to prevent the formation of fruit, is to promote the future production of flowers, and, acting upon this principle, all good gardeners break off the young rhododendron fruit as soon as the flowers have fallen. The same rule applies to all other cases.

(A SUBSCRIBER, Andover, Mass.) Your tender roses may be safely wintered in a small pit dug below the frost, and aired as often as the weather will permit. If you have a cellar door exposed to the east, south, or the southeast, and the cellar is tight, place glass inside and below the door, so that it (the door) will open and shut above it. By this means, you may give light during the day, and keep out the cold at night. In such a ready-made pit, you may have, at a trifling cost, quite a winter greenhouse of lemon-trees, oleanders, camelias, &c., and some of your roses, if carefully potted, will give you bloom in the cool weather. Be careful to give air whenever it is of suitable temperature out of doors.

BLACKBERRIES.—A box of fine blackberries received on the 16th of September, from Mr. Lawton, speak loudly in favor of this now established luxury of all good gardens. They were superb. Several other artical articles came too late for notice this month.

Horticultural Societies.

ANNUAL HORTICULTURAL EXHIBITION OF THE PENNSYLVANIA SOCIETY, IN SEPTEMBER, AT JAYNE'S HALL.—*Mulum in parvo* may well be applied to such a sight. In the great Chinese Museum, our exhibition was almost a national one; the Committee, however, very ingeniously made the most of their space, and crowded it with many fine fruits, plants, and vegetables. The specimen plants were exceedingly well grown, though several of them had entirely too many stakes, wires, and other artistical trainings. Do away with such stiff taste; revise those prize lists, and in place of twenty plants, call for ten, and where twelve is required, adopt six, if you wish to diffuse competition, and to have even superior plants and more bloom. As it now is, the prizes are necessarily confined to a few large private or public growers: open the way for fifty competitors instead of five.

Of grapes, nearly a ton was exhibited, and though there was not a nine-pound bunch of Hamburgs, this year, yet, we believe, some weighed over seven pounds; the competition very evenly contested. Muscats and Frontignacs were certainly in profuse abundance—large berried, and heavy. But why do competitors not carry their fruit more carefully, and

retain all the bloom upon it? We did not see a new foreign grape; while native grapes increase in variety, and roll upon us with a flood. Several sorts, purely native, promise fairly to equal the Isabella and Catawba, though all our expectations for grapes for the table must be accomplished by actual hybridization with the foreign varieties.

Pears.—Nearly thirty native sorts were on the table; these will ultimately cut off all foreigners, with not over a dozen exceptions. The following beautiful sorts were remarkable: *Howell*, *Jones*, *Mogamensing*, *Andrews*, *Proble*, *Washington*, *Philadelphia*, and *Seckel*; there were several unnamed seedlings of the greatest promise.

Foreign Pears.—Mr. Chambers, of Mount Holly, N. J., contributed the largest variety, and shall we say Mr. Baxter contributed the best. Mr. B.'s fruit farm is something less than half an acre; and from all the facts and evidences before us, we say, rich soil and double working suits the pear. Another fact: all pear fruit grown under the influence of the city atmosphere, has a finer skin, a brighter color, and their outlines more perfectly developed, than any grown on country lands, however well tended. We have yet much to learn on that subject. Our best growers are only learners; and the day dawns when only twenty-five to forty sorts of pears will be generally cultivated.

Apples.—There were only two fairly passable lots.

Nectarines.—We have never seen the equal of that pile of *Stanwicks*; if we were to grow only one sort such, it would be the *Stanwick*.

Peaches were good, but in small variety. There was one new luscious seedling, too small in size for the vulgar eye.

Vegetables.—This is a vegetable season. Every article was of California size; indeed, out of proportion, but beautifully fine. This is surely a beet country. The Radish Beet, or new Long Blood Beet: skin, perfectly smooth; root, two feet long, and finely tapered; diameter, five inches, with a color as bright as crimson velvet; crisp and solid. Every gardener and every fruit grower should plant this beet.

Plants.—The new features were ferns, variegated plants, and hanging baskets; as many as sixty forms of variegated plants were in the room, and very attractive, from the expensive *Pandanus* to the simple and every-day *Hydrangea*. Ferns, under good care, have a charm to the cultivated eye, but we doubt of their being the plant for the million. In new ornamental plants not before exhibited, we noticed *Eugenia ugni*—in fruit, rather small for table use; and it does not come up to the impression the English have made upon us. *Tree Fern*, a gigantic affair; very tropical. *Pentas rosea*, more distinct than was expected. *Dracaena picta* is very elegant amongst the variegated plants, and fully equal to any of that tribe. We must not overlook the highly extolled *Pampas Grass*—quite ornamental, but, we fear, too tender for culture north of Baltimore; for Southern lawns it will answer, as it resists heat and drought, is graceful in habit, and attractive in bloom, but far from being a forage plant, as was hoped.

The whole exhibition was creditable, but we have seen better. Was it not too early?

The Premiums.—The premium for the best collection of twenty plants was awarded to Mark Hill, gardener to Mr. Baldwin; the best, restricted to private growers, to James Pollock, gardener to Mr. J. Dundas; and the best collection of twelve plants to C. O'Brien, gardener to the President, Gen. Patterson. Mr. Felton, as usual, had a great display of vegetables, but for once the first premium was carried off by James Jones, gardener to Girard College. The first prize for twenty cut roses was awarded to R. Buist, who presented many novelties, as also did Mr. Dreer, who obtained the second. A. Frazer, gardener to D. Rodney King, exhibited an ornamental aquarium, very well got up, and also a large collection of dried green-house plants. Jerome Graff, gardener to Mr. Stuart, late Mr. Cope's, was again on hand with beautiful blooms of *Nelumbium speciosum*, and a fine flower of the *Victoria regia*.

J. S. Levering's grapes in pots took the prize, though those from D. Ferguson were little inferior, and a great acquisition to the rooms. Neither the *Diana* nor *Rebecca* grapes made their appearance. Robert Cornelius received a premium for the Concord, which is said to ripen earlier; but with its strong foxy flavor it is inferior to the *Isabella* for those climates that will ripen the latter. The Northern Muscadine or well known red Fox grape, and the Charter Oak, might have staid at home. Mr. Isaac B. Baxter received the first prize for native grapes, among which was a seedling called "Penn," raised from the wild Frost grape, but with handsome bunches; also the "Ohio," differing little from the Frost. It is remarkable that the first and second premiums for peaches should have been both taken by seedlings; the first, to J. B. Baxter, was for a very large white variety. The great show of *Stanwick Nectarines* were from Mr. Stuart's, and took a first prize, as did R. Buist, for a collection of native pears—seventy-two kinds; the second to Mr. Parry. The best native

varieties, except Seckel, designated by premiums, were the Kingessing and Washington, John Chambers carrying off the award for the best collection of foreign varieties; and to Mr. E. A. Vickey, that for the best collection of apples; second best to John Perkins, who produced a handsome seedling named Perkins.

Calendar of Operations.

OCTOBER.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

THE VINTAGE.—No cultivation being required this month, it will simply be necessary to treat of the gathering in of the crop, and putting it away, which is termed, the *vintage*. A few extra hands will be required, and women, and girls and boys, will do as well as men. Each hand takes to the vineyard a knife and two buckets. The bunch of grapes is cut from the vine, and all unsound or unripe berries are picked off, and thrown into one bucket, and the bunch with the perfect fruit into the other. Any bunch of grapes not perfectly ripe, should be left on the vine to ripen, which may require a few days more. The buckets are emptied into barrels, and a cloth thrown over, to keep the bees and wasps out. In the evening, the barrels are hauled up to the wine-house, and the grapes, after being passed through a small mill, with a pair of wooden rollers, grooved, and placed three-fourths of an inch apart, or mashed in a long wooden vessel with a beater, so as to break the skins and pulp, but *not* the seed, are then thrown on the wine-press, and the juice pressed out and put into the wine casks, to ferment. About one-third of the juice runs off without pressure; three or four pressings are required to extract the remainder. The juice from the last pressing should be put with that from the refuse *grapes*, to make, with the addition of ten or twelve ounces of loaf sugar to the gallon, an inferior wine, which is usually sold at half price.

The pure juice from the perfect grapes requires *no* sugar. Fill the casks within one-fifth of their capacity, so as to allow room for fermentation. Lay a cloth over the bung-hole, or put a straw stopper in, to let the gas escape, until the fermentation ceases; then bung tight. A tin siphon (one end in the bung-hole, and the other in a bucket of water) is a very complete method of passing off the gas, with safety to the casks and to the wine. The fermentation generally ceases in about ten days.

After each pressing, cut six or eight inches off the outside of the "cheese" (the mass of mashed grapes), and throw them on the top. When the juice is all extracted, the "pumice" may be stowed away in tight casks, to give to the distillers, with the lees of the wine, to make brandy, or they may be thrown on the manure pile. As remarked last month, the press, the casks, and all vessels needed, should be perfectly clean, and kept in the neatest order. Further treatment of the wine will be noticed hereafter.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Attend to the lifting of roots, as carrots, beets, &c.; such roots are best preserved in a cool cellar, secured from frost, packed in sand or dry earth. Parsnips may remain in the ground as long as possible, and even all winter. Potatoes are much affected with rot, and will consequently require extra attention. At the time of lifting, they should be got as dry as possible, and carefully picked over, rejecting all that show the slightest symptoms of decay. Those that are apparently sound should be spread out somewhat thinly, and covered with dry sand or earth. Charcoal dust is by far the best material for this purpose. Some years ago, when the disease was very prevalent, we saw several instances of the value of charcoal dust above all other expedients as a preserving agent. They should be completely covered over, so as to be entirely excluded from the direct action of the atmosphere.

All spare ground should be dug over, and weeds and other rubbish buried under. Corn-stalks and such refuse, are valuable ingredients in clayey soils at this season; they decay slowly, and preserve a porosity which allows a thorough pulverization with frost.

Lettuces for early winter use should be planted in frames where protection can be given on cold nights, but they should have abundance of ventilation so long as the weather is open; heavy rains should be excluded.

FRUIT.—In gathering winter fruit, the utmost attention should be given; the slightest bruise lays a foundation for decay. No fruit should be suffered to freeze (unless we except the Isabella Grape), and there is more likelihood of erring in allowing it to hang too long than in pulling it too soon. Most varieties of pears are improved by being picked before fully ripe; a cool, dark apartment, where there is little variation of temperature, is best adapted for keeping fruit.

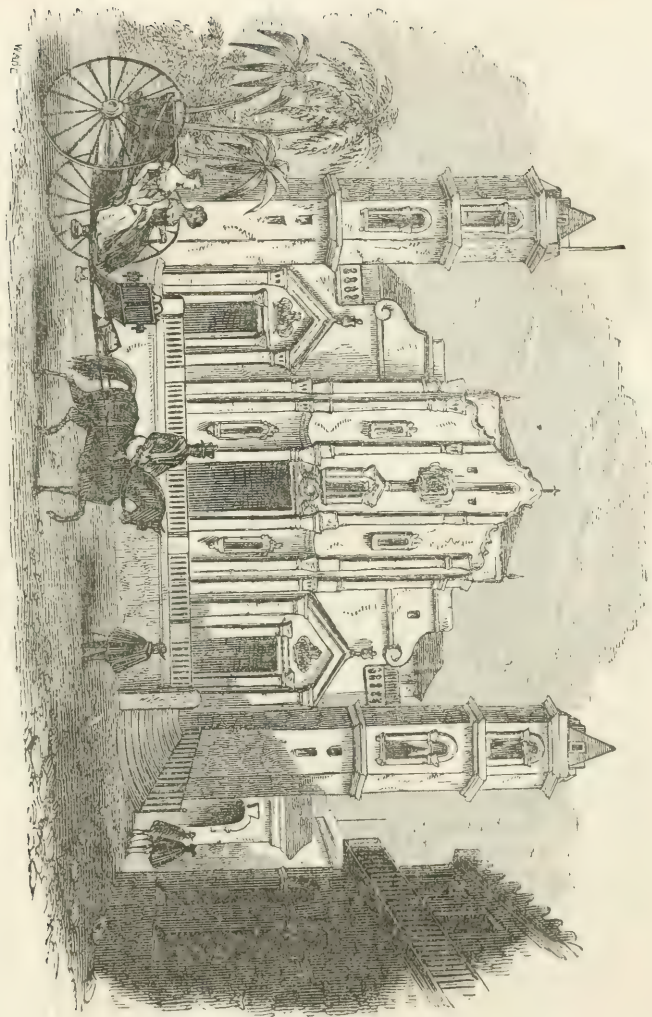
GRAPEY.—Where the borders are deep and imperfectly drained, it will be advisable to cover them, so as to throw off heavy rains. Ample ventilation may now be given; much, however, will depend upon the state of the plants. The wood ripening process should not receive any sudden checks, and, where there is a succulent growth, the house should be kept warm, in order to hasten maturity; keeping the borders dry, will materially assist in this respect.

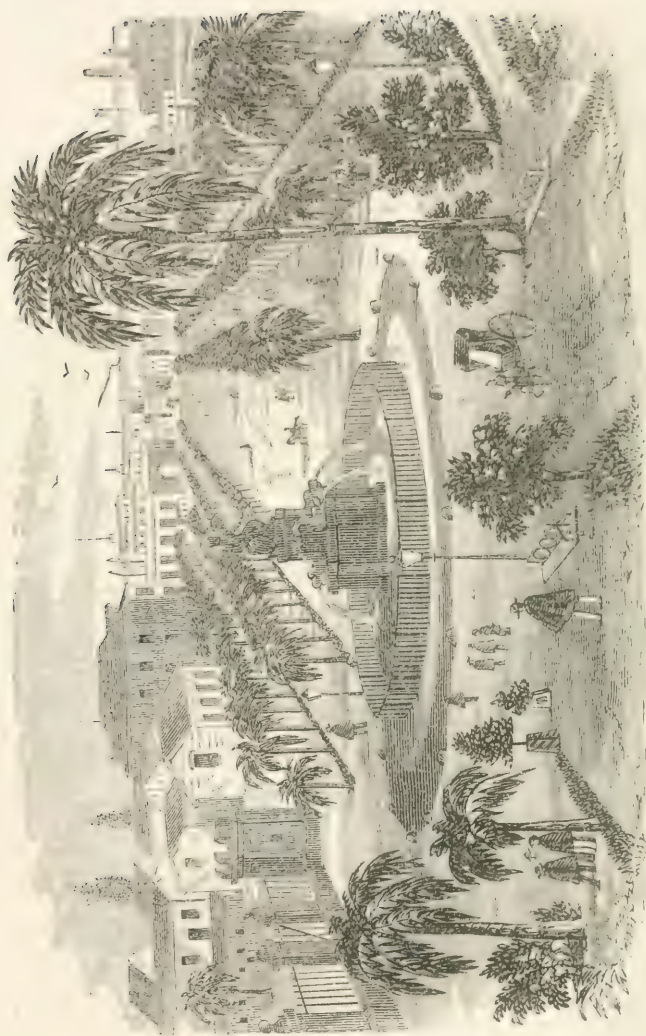
The culture of grapes in pots is justly receiving more attention than it ever has done; they are easily cultivated, and as there is always much spare space in the interior of grape-tries, the crop may be very much increased by a row or two of plants in pots set on the floor of the house. A surprising quantity of fruit can be produced in this manner, without interfering with the regular crop on the rafters. Pot culture is also most convenient for a greenhouse, as pots admit of removal at any time required in the arrangement of the house.

GREENHOUSE.—Before the plants are arranged for winter, the house should be thoroughly cleaned. If not painted (which it should be once in four years at furthest), close it up, and fumigate by burning sulphur (where there are rafter plants, permanently planted, this fumigating cannot be done); this will destroy every vestige of insect or their larvæ. The plants should also be carefully cleaned, pots washed, and top dressed with fresh soil. The heating apparatus should also be examined, and any necessary repairs or alterations attended to. Heating by hot water is now much employed in large houses. In small greenhouses, the old furnace and flue system will answer every purpose as well as the most costly apparatus. The plants should be arranged so that the most tender will occupy the warmest position, and those of a more robust nature the coldest. The temperature should be kept as low as practicable at night, and well ventilated during day. Growth should not be excited at this season. Watering should always be done in the morning, and gradually withhold it from such plants as are approaching a state of rest. Now is the time to prepare plants for the winter, by getting them into a condition so that they will not require excitement either by water or heat. *Cinнерarias*, young *fuchsias*, *geraniums*, &c., that are growing slowly, should of course not be subjected to checks; they will grow fast enough if set on the front shelf, over the flue. The summer flowering *gesneras*, *gloxinias*, *achimenes*, &c., should not be neglected immediately after they cease blooming; they require careful waterings until the tubers mature, which will be indicated by the decay of foliage; they require it to be kept perfectly dry and warm during winter, either in the pots in which they were growing, or shake them out of the soil, and keep them covered in sand.

PLEASURE GROUND.—PLANTING TREES.—Those who intend planting this fall, should attend to it early this month. The relative advantage of fall and spring planting is open to much discussion. So much depends upon local circumstances, that diversity of opinion is of all things most likely. One man will set out a few trees about the middle of October; perhaps they are only transplanted from one part of his grounds to another. They start at once to grow at the root, and, before winter sets in, are well established. Another will receive trees from a distant nursery, plant them the first week in December, and the winter kills them, having no time for growth. In both cases, it is considered *fall planting*. The removal of a tree for a short distance, may be successfully effected at any season, with ordinary precaution. There is no risk in moving deciduous trees in June or July, if the young growths are pruned off and the smaller branches thinned, so that the foliage will be lessened. The whole of the foliage, indeed, may be taken off, but there is more risk from the sudden check to growth. The month of August and the first portion of September, is perhaps the worst for removal of free-growing trees, on account of their liability to make a growth which will not be matured before winter, and consequently endanger the life of the tree. Trees have been lost in that way; but such as horsechestnuts, lindens, &c., that make their growth early in the season, are not likely to start again at this time. Evergreens may be removed with great success during the summer months. Of course, there is care required in the operation as well as in the after treatment. Water should be freely applied to the roots immediately after planting. Evaporation from the leaves should be supplied externally, by keeping them wet for a few days, until root action is restored. Watering at roots only, will not answer the purpose, and many trees are destroyed through excessive care in keeping the roots constantly wet.

THE CATHEDRAL AT HAVANA.





VIEW OF THE IMPERIAL DEL PASEO.

A Trip to Cuba and the Southern States, No. 6.

"Fair land of Cuba! on thy shores are seen
Life's far extremes of noble and of mean;
The world of sense in matchless beauty drest,
And nameless horrors hid within thy breast;
Ordained of Heaven the fairest flower of earth."



PALMS.—Linnaeus rightly called the Palms the princes of the vegetable world, for they surpass all other plants in the grandeur and majesty of their port. Cuba possesses such numbers, and a considerable variety, that the *Laplander* from the United States, who has only seen them cramped in hothouses, is perpetually delighted. Their lofty stem, supported by a mass of fibrous roots, which frequently creep along the surface of the ground, consists of wood with longitudinal fibres, soft in the centre, but hard as horn itself at the circumference. The fruit is a drupe, or berry-nut, with either a fibrous or fleshy coat. Most of the species are confined within fixed and narrow bounds, few extending over a large extent of surface.

Von Martius thinks it probable that the number of Palms will be found, by future travellers, to amount to as many as a thousand species. In the times succeeding the deluge, they appear, from the written evidences of historians and poets, to have followed the footsteps of man, to whom their fruit yielded food, drink, and oil; their stems, houses, arms, utensils, flour, and wine; and their leaves, cordage, and roofs for habitation. In cultivation, their soil should be slightly saline.

Cutting down a Palm-Tree.—One morning, our party obtained permission from the owner of a coffee plantation to cut down a Royal Palm, in order to get the much esteemed cabbage. Taking a workman, we found a moderate-sized tree, which soon yielded to the strokes of the axe; the wood is coarse-grained, and presents, in the centre, a pithy appearance. It was somewhat of a hazardous request, for this Palm is held to be almost sacred from such desecration, meeting, as it does, so many of the wants of man; the head is sometimes wantonly cut off by marauders, to procure the cabbage, and the tree inevitably dies in consequence. When the tree fell, the stem was divided at the well defined point of junction of the green and light lead-colored bark; the green or top portion was about eight feet in length when the plume was removed. Our axe-man shouldered this, and took it to the house, and we enjoyed the pleasure of unrolling the sheath, which extends from the bottom of the lowest branch, and enfolds the green stalk. Each branch or leaf has a sheath extending downwards, and enfolding the cabbage in the most extraordinarily white successive layers, each of which represents a foot-stalk and leaf. Unwinding these (if the expression may be allowed), we come at last to the colorless younger embryo leaves constituting the cabbage. These are sufficiently soft and delicate to be eaten raw, tasting something like an uncooked cauliflower, but more delicate. The leaves, as they expand, are strongly attached to the sheath, and fall in succession, about monthly, one at a time, and cover the ground, being from ten to twenty feet in length; the leaf at the outer end is formed like the feathers on a quill, and the broad stem, which we have called a sheath, having acquired the strength and consistence almost of a board, and as a substitute for a board, it is used for thatching, for making inclosures, and the thinner portion as we see it around seroons of tobacco. There are fifteen or twenty forming the lovely, tuft-like plume—the younger leaves at top. The dropped lower leaf leaves

a ring around the stem, which soon assumes the lead color of the bark, the ring remaining distinctly visible, and marking the successive falls. A broom-like seed-vessel shoots out, of a pale yellow, from the top of the lead-colored trunk and



Palm, with swelled trunk, common near Trinidad de Cuba. Height, 25 to 40 feet.

base of the green sheaths above it; as this blossom falls, a green berry is formed, and this gradually becomes the small brown drupe forming the principal food of swine. Another and another bunch is produced, and we have blossoms and ripe fruit in perpetual succession, each tree with bushels on it. Here is the food, boards, fuel, and thatching. Palms, taking the whole family, yield, in addition, fibre of great variety, oil, wax, starch, sugar, daily food, a mild and an intoxicating drink, or, as the poet has it—

“The Indian-nut alone
Is clothing, meat and trencher, drink and pan,
Boat, cable, sail, and needle, all in one.”

The Palms belong to the Endogens, the woody matter being constantly developed, in the first instance, towards the interior of the trunk. That Palm-trees grow in this way, was known so long since as the time of Theophrastus, who distinctly speaks of the differences between endogenous and exogenous wood. The longevity of Palms is inconsiderable when compared with that of exogenous trees. Two or three hundred years are estimated to form the extreme extent of life in a Date-Palm, and in many others.

We had the “cabbage” dressed for dinner as we dress a cabbage at home, with

vinegar, in which state it was much relished. A portion of the large mass was boiled, but so badly cooked, in our estimation, and mixed with such desperately bad butter or oil, that a little was enough. The whole of the cutting down, the unrolling process, and examination of the delicate white folds, offered an example of vegetable structure on a large scale, of very great interest, and we are very sure that none of the American party will ever forget or regret the morning thus employed.

At Mr. Monson's (the old coffee plantation), we had fine opportunities of observing the novel insects, which are abundant in all tropical countries. A kind of wood lice, called *comehen*, build enormous deformities, of the consistence of a wasp or hornet's nest, on the stems of trees as well as their branches; the paper-like layers are extremely thin, and easily attacked by birds, which feed upon them with avidity. The nests are so large as frequently to contain a bushel of insects; these the natives carry off, to feed and fatten their chickens. The beautiful *cucculios*, or great fire-flies, had not arrived when we left, so that we missed this famous sight. Spiders, lizards, centipedes, and tree-frogs, are abundant; the little lizards are quite pretty, and seem to have no fear of man, whom they look at with their beautiful and cunning eye, and allow him to scratch their heads. Birds, except a parrot-billed blackbird, were not numerous at this early season, though flocks of partridges occasionally flew up with their well known *whir*. The wild dove was plentiful in market, and a favorite food.

About this region, but more especially on the southern side of the island, one of the great annoyances to the botanist is a vine not inaptly called the *wait-a-bit*. It pervades every uncultivated woods, where it makes a pedestrian progress very difficult. A short hooked spine at every bud and every joint of the tough branches, and even of the leaves, not very unlike a fish-hook or a short hooked thorn bent backwards, and very sharp, tears one's clothing, and is really a formidable enemy. The compensation for all this, is the quantity of gorgeous flowers at every step; among these is the vanilla vine, with a bright green stem, the flowers white, of a lily shape, and waxy appearance. Sometimes, in such rambles, you come to orchideous plants large enough to fill two wheelbarrows.

Matanzas.—Having engaged passage to New Orleans, we found time only for a short visit to Matanzas. Understanding that the accommodations of the hotels were desperate, we took pains to find out the best, and as everybody agreed that the *Ciervo de Oro* (the Golden Stag) took precedence, on arrival by rail, our party drove to it; externally, it was of respectable proportions, with its name displayed in huge letters, over a Moorish arch. The bar was rather prepossessing at first entrance, but no booking of names was needed, and the landlord appeared quite indifferent to his customers, though we constituted his entire stock of that important hotel article. At last, more by signs than understood words, we were shown to our rooms, and such we hope never to be placed in again. To say that they were dirty, is mild language; in fact, they had evidently never been scrubbed or cleaned with anything better than a whisk. The rough floors were grimy beyond endurance. Very soon we all decided to depart by first opportunity, for no sleep could possibly be had in such beds. On inquiry, it was found that a steamboat in good repute would depart for Havana in the evening. It was difficult to ascertain at what hour, for Matanzas that evening rejoiced in an opera, and the boat was to leave *when the opera broke up!* which would be at eleven or twelve o'clock. We concluded to get some dinner, look at the town and the celebrated valley of the Yumuri, and be ready at the earliest hour named.

The cook's department was unfortunately prominently in view, and it soon appeared that the Golden Stag was a restaurant to supply the families of Matanzas who kept no cooks. Fine fish were prepared for the fire, to be ready at the shortest

notice ; as soon as this was accomplished, they were set on a table in the hollow square below our windows, in the full blazing sun, to await orders. The flies immediately covered every part, leaving no pleasant prospects for American tastes ; other viands, including meats, shared the same fate. The dinner, notwithstanding, looked well on the table, and though basted with sweet oil and garlic by the old blackman cook, and charged very unreasonably, was not unacceptable to hungry travellers. The town is situated on a bay more noble in its dimensions than that of Havana, and bore evidences, in the shipping in port, of an extensive commerce ; but it was a dull sort of place, with a handsome Paseo well planted with the Cuban Cedar, but nobody riding on it. The air of a capital so evident in Havana, was entirely wanting ; and after a ride to see everything of interest, we were glad to desert our poor quarters, and row off to the steamer.

About twelve o'clock, the opera performers and many of their audience, were fraternizing on board ; the paddles moved, we were off to sea, on a fine, warm, starlight night, passed the Moro again, at daylight, and breakfasted with an appetite somewhat sharpened by short commons in the interior.

The Cathedral containing the ashes of Columbus, is of course one of the sights that attract all visitors ; the much vaunted monument is a mural tablet of small size, with an effigy of the discoverer, representing him as a young man ; it is entirely unworthy the subject. The so called military mass in the Cathedral and the other churches, much sought for by strangers, is totally uninteresting. The soldiers are marched in in clean linen dresses, and stand perfectly still, but with eyes wandering, to inspect the assembled strangers, while the priest goes through the Catholic service, when they are marched out again. As to the soldiers (who are all from old Spain), we should say they were taller men than those composing the French army, and really very good-looking fellows, especially in Sunday garb. The Sabbath is about as much kept as in Paris ; bull-baits and cock-fights, and the negroes, by imprescriptible custom, dancing outside the walls—street watering with an awkward machine with a long tail, held by ropes in the hands of two opposite pullers, who water the passengers in the street without mercy—volante driving on the Paseo—open shops and markets till after noon—comprise the employments of the inhabitants. The churches are better attended in the morning than on other days, but mainly by women. The rich arrive in their volantes ; a servant spreads a gay house-rug on the marble floor, and the ladies kneel a short time, and depart. In several instances, their servants in attendance were Chinamen, who looked very much at home in these religious premises. The poor who had no rugs, either spread an old handkerchief, or kneeled on the cold floor.

Many, indeed most of the streets in Havana, are so narrow, that in those devoted to shopping an awning is spread (overhead) from one side to the other. Vehicles, by law, all go one way ; so that you have to go roundabout to get into the current. The shops are extremely shallow ; the goods are brought out to the female shoppers, who sit in their volantes to make bargains. The only shops that bore a strong resemblance to our own, were the silversmiths, who carry on, apparently, a thriving trade, and make a good display of their wares. The apothecary is perhaps the next approach to our mode, but his medicines are kept in vessels and gallipots of novel construction. You never could find a doctor or a lawyer without minute directions, as nobody (not even the bankers or merchants) ever puts up a sign of any kind ; you must find them by some other process. The shopkeepers likewise conceal their names, but adopt a sign, either poetical or fanciful ; one is La Bomba, El Sol, La Vergen, La Grand Signora, California, the Oranges, &c.

Everybody has heard, no doubt, of the curious custom of keeping the volante in the entry, but no one who first encounters the carriage in that position, can do

so without an involuntary surprise. The first day we dined out, the entry communicated with the dining-room, and there was but just space enough for the Chinese waiters to pass between the back of the chair and the wheel of the bedizened coach, which, we heard afterwards, had a thousand dollars' worth of real silver for its mountings.

One of the novel sights to a stranger, is the mode of supplying corn-stalks for horse feed from the rural districts to the town consumers. Hay, unless imported, is out of the question; corn-stalks are substituted, and these are supplied daily, in a fresh state, brought on the backs and sides of small horses, with the same regularity as milk is distributed in our cities. All the approaches to Havana as well as all its streets exhibit strings of horses in single file, those in the rear tied to the tails of those in advance, and all of them literally thatched over with green stalks, nothing being visible but the muzzled head and the small feet. The *arrieros* come in from a distance of six, and even ten miles, and proceed to serve their customers, dropping a half-dollar bundle at successive houses, for the day's supply. The poor little horses carry enormous weights in this way, and look, on a larger scale, like the insects which pack themselves away in green leaves for winter quarters. As they stand patiently to be gradually unloaded, it is amusing to see their quiet but vain attempts to snap at a branch of the corn, with an expression which plainly says: "I want it badly, but know I can't get it!" These *arrieros* come to town in the same style, with loads of various produce, the horses always in this single file, just as they came in the days of Don Quixote, and with most awkward baskets and panniers swung on the horses' or mules' backs. Everything seemed to go in a pannier; a keg of molasses or a demijohn, is pushed into a pannier, and is carried in or out of town in this most awkward way. The Palm leaves are worked into the sides and tops of wagons, when these are employed for heavy goods like sugar hogsheads, and the whole arrangements seem to speak of the middle ages. The horse requires a daily bath in such a warm climate, and they are fastened heads to tails, and swim about in shallow parts of the bay, in a circle; happy the little Spanish boy when he can throw himself on one of their backs, and get a ride and a swim at the same time.

We were sitting one evening with a Spanish gentleman, in Havana, in a well-lighted room, paved with marble tiles, when a scorpion ran across the floor very near us; a little boy put his shoe upon it, and crushed it at once. The circumstance was pronounced very unusual, and led to the assertion of several natives, that the Cuban scorpion is, to most, harmless; its sting inflicts about as much injury, and of the same duration, as the sting of a bee. Both, however, affect different persons differently; some more, and some less, but neither are dangerous.

We have alluded to the Royal Tacon Paséo, and as this drive and the Cathedral furnish illustrations* for our present number, we may say of it that in its original outlines it has great merit. The view represents the beginning just outside the walls, where the arch in the wall opens an entrance to this rural drive. It is well planted, and is statued with Carlos and Christmas in marble; but these royal effigies and other emblematical devices are mounted on stuccoed columns in a state of dilapidation. The fountains represented seemed to be in decay, and were never played, water being scarce. Altogether it presents a truly Spanish scene—a combination of civilization and pretension, surrounded with meanness and constant evidences of semi-barbaric neglect.

* For several of our previous illustrations we have been indebted to the able pencil of our friend Ledyard Lineklaen, Esq., of Cazenovia, New York, who preceded us by a few weeks only. In the December number these sketches of Cuba will be concluded, and a few remarks on the Southern States will be commenced in our next volume.

ORNAMENTAL IRON WORK.

IRON ornamental work continually increases in variety and importance, and usurps the place of other materials. It was but yesterday that iron bedsteads were introduced, and now we have all kinds of chairs, settees, vases, lamps, summer-houses, &c.

Fig. 1 represents a lamp, quite perfect in its form and rivalling the beautiful castings in Berlin. We obtained this pattern and Fig. 2 from Mr. Robert Wood, of Ridge Avenue, Philadelphia, celebrated the Union over for his iron railings and ornamental castings.

Fig. 3 is also made of iron, and when these are bronzed they are beautiful household furnishings.

Fig. 4 represents a stand for flowers, to be placed on a piazza, in a hall of entrance, or drawing-room, and should be either highly painted and varnished, or, what would be preferable, bronzed. The cups catch and retain any water that may leak from the flower-pots.

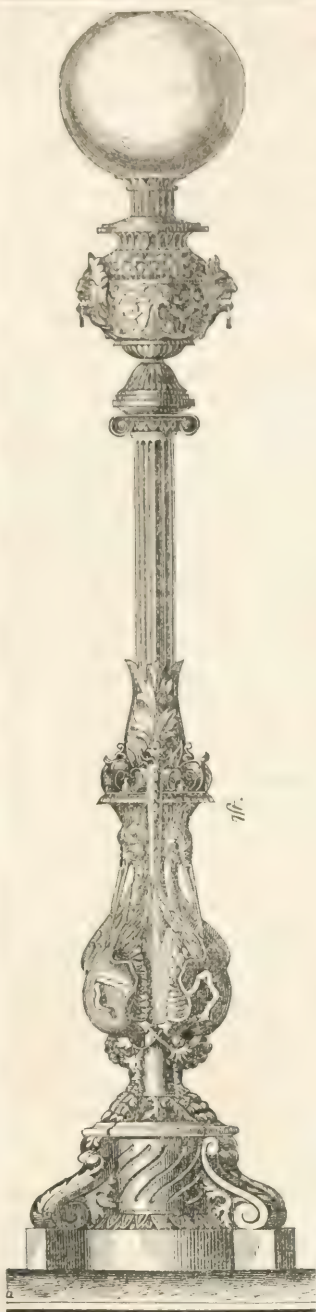


Fig. 1.



Fig. 2.



Fig. 3.



Fig. 5.



Fig. 4.

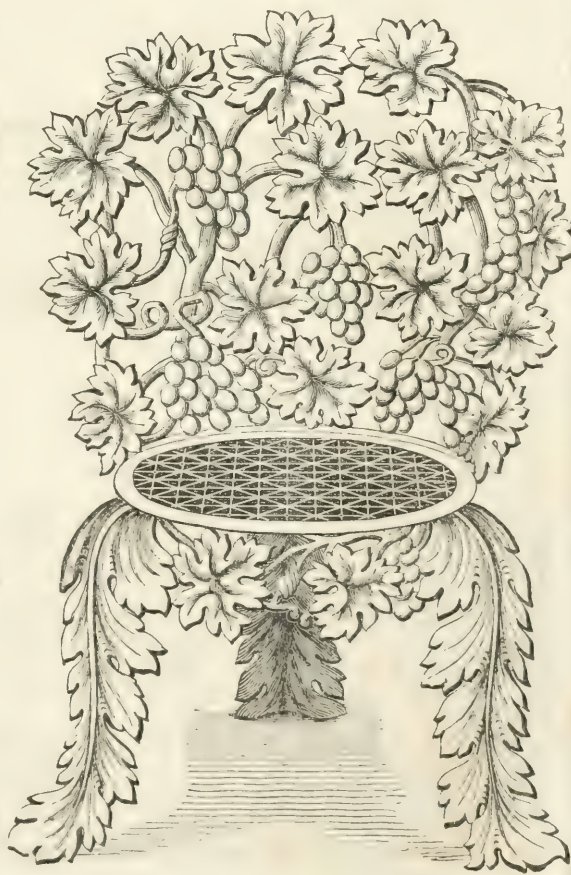


Fig. 6.

Figs. 5 and 6 are chairs, much used in the open air and for cemetery lots, and the benches, Figs. 7 and 8, are similarly employed.



Fig. 7.

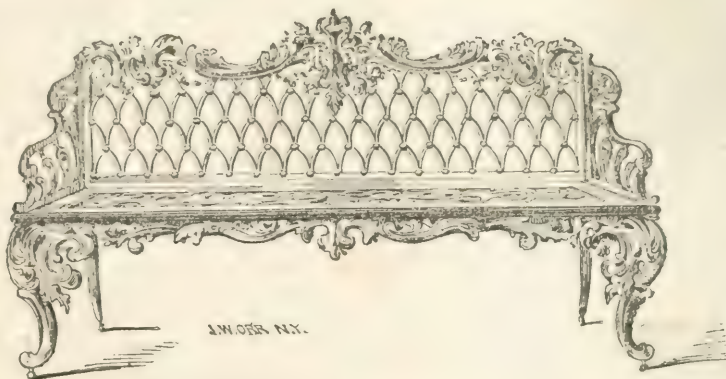


Fig. 8.

Iron is now used in architecture, ships, and rigging. Wire ropes are employed in many mines. At equal strengths, a wire rope is lighter by one-third than a hemp rope, and by two-thirds than a chain, an important fact. Then we have metallic life-boats, pontoons, and army-wagons; the boats now made, it is said, cannot be broken or upset, let them be used ever so roughly, and the pontoons are models of lightness. We are to have, they say, railroads to California, and the railway to India, by the Euphrates valley, while that from Honduras to the Pacific, 161 miles, seems a fixed fact, so that the demand for iron will be unlimited.*

Glass will be the next thing generally introduced, and for new purposes. We have seen a glass mantle-piece, and glass picture and looking-glass frames; there is in Philadelphia a street pavement of glass, cast in octagons, which has been laid down for many years, and is now uninjured; why not glass tables, &c., as well as crystal palaces. Moulding glass is yet in its infancy.

BIOGRAPHICAL MEMOIR OF THE LATE FRANÇOIS
ANDRÉ MICHAUX.

BY ELIAS DURAND.

[From the Transactions of the American Philosophical Society, Volume XI. p. xvii. Read December 5, 1856.]

FRANÇOIS ANDRÉ MICHAUX, the subject of this memoir, belonged essentially to that class of scientific explorers who, by their devotion to science and their energy in promoting the welfare of mankind, may justly be viewed in the light of benefactors of their race.

When we consider the noble spirit with which such men enter upon their hazardous enterprises—when we witness the fortitude with which they encounter the fatigues and inconveniences of their distant voyages in regions as yet unexplored—we cannot withhold from them the expression of our admiration. It is not a spirit of egotism that moves them onwards; it is not for their personal gratification, nor with the view of enriching themselves by their discoveries, that they desert their family hearth and separate themselves from the fatherland. Their object is disinterested, and of the noblest character. They labor for the advancement of science, and, above all, for the benefit and enjoyments of their fellow-beings.

To what toils, to what privations and dangers, must they not necessarily expose themselves in order to attain the object they have in view? Behold them wending their way through inextricable forests; through pestilential marshes; over grounds untrodden by the human foot—struggling and panting under the rays of a torrid sun, or shivering under heavy showers of rain—now clambering over steep rocks, and next descending into deep precipices, constantly exposed to dangers of every description.

To men of this class we already owe many of those succulent vegetables which cover our tables; those delicious fruits which enrich our gardens and orchards; those fine trees, shrubs, and flowering plants which grow by the side of our native trees, ornament our parterres and pleasure-grounds, or are cultivated in our green-houses. The peach, the apricot, the cherry, the almond, as well as the greater part of our most valuable garden vegetables, were obtained from Asia, the cradle of the human race; the walnut came from the Black Sea; the pear, the apple, the chestnut, from the forests of Europe; the orange from India; the sugar cane from China; the maize and potato from South America, &c. And, ere long, through the persevering exertions of François Michaux, Europeans will enjoy, in their own fields, the refreshing shades of the finest and most useful trees of our native forests; of those, especially, which are employed in civil and naval constructions, or in cabinet work. As Americans, we are ourselves under peculiar obligations to him for an accurate knowledge of our forest-trees, and for the good advice which his experience has enabled him to give us on points of national economy connected with arboriculture.

François André Michaux was born on the 16th of August, 1770, at Satory, a royal domain situated in the vicinity of Versailles, which, for several generations, had been intrusted by the Crown to the administration and management of his ancestors. He was the only son of André Michaux,* who, with Catesby, Clayton, Bartram, Kalm, and Walter, was one of the pioneers of botanical explorations in the North American regions. His mother, Cecile Claye, was a daughter of a rich

* See Horticulturist, page 353, *ante*.

farmer of Beauce. She died eleven months after her marriage, leaving behind her a son, the subject of this notice.

Of the early life of François André Michaux, I have not been able to collect much information. It is probable that he was brought up on the farm of Satory, in the practical school of his father and of one of his uncles, upon whom devolved, after the departure of the former, the sole management of this extensive royal estate. It may be inferred, also, from his writings and instructive conversation, that his collegiate education had not been neglected.

His father, whose history is inseparably linked with that of his son, had devoted all his life to the progress of agriculture and the sciences; his main ambition had been to effect something that might redound to the advantage of his native country, and, with this view, he had early turned his attention to agriculture, the advancement of which, he had soon perceived, could not be more securely attained than by enriching its domain with such products of foreign climes as were unknown to his own country, and susceptible of acclimation. In order to accomplish his object, he determined to visit new regions, possessing climates similar to that of France, and to bring back thence such of their productions as might prove of advantage to his native land.

To effect that purpose, he prepared himself by a proper course of studies, and by devoting his particular attention to the science of botany, under the great Bernard de Jussieu. He first visited England; he next made several explorations in the mountains of Auvergne, and in the Pyrenees; then in Spain; and embarked afterwards for Persia, in the capacity of secretary to the French consul at Ispahan, but, in reality, for the sole purpose of exploring that country, then almost unknown to scientific men. From 1782 to 1785 he surveyed the whole of the Persian provinces between the river Tigris and the Euphrates, and returned to France with an extensive collection of specimens and a large quantity of seeds of every kind.

During the absence of the elder Michaux, the French government had been agitating the important question of introducing into the forests of France such exotic trees as would be calculated to increase the national resources, with respect to naval constructions. The information which had been received from the United States, in this regard, had been exceedingly encouraging; and Michaux, who had just returned from Asia, was chosen for that particular errand, with instructions to procure for the royal nurseries all the young trees, shrubs, and seeds he could possibly send. In consequence, he made all proper preparations, and embarked at L'Orient on the 25th of August, 1785, taking with him his son, then only fifteen years of age, and a journeyman gardener of the name of Paul Saulnier, of whom I shall speak hereafter. They landed at New York on the first of October following.

At this remote period of time, I am altogether without record as to the movements of young Michaux immediately after his landing on our shores. The only source where I expected, naturally, to obtain information, was the manuscript journal in which his father was in the habit of registering the daily incidents of his eventful life, and which had been deposited by his son in the library of the American Philosophical Society. Unfortunately, this journal has become incomplete through the absence of three of its fasciuli, containing the years 1785, 1786, and 1790, which were lost in the shipwreck of the elder Michaux on the coast of Holland. In the fasciculus of 1787, young Michaux's name appears for the first time on the date of May 6, as accompanying his father in his exploration to the sources of the Keovee River. In the next spring he is seen again with him, journeying into the interior of Florida. He is afterwards mentioned several times as being retained at the Charleston Nursery, either on account of ill health, or

intrusted with the management of the plantation, during the journeys of his indefatigable and ever moving father.

In the further perusal of the manuscript, I learn, at the date of the 20th of September, 1789, that his son, walking along the road, was hit by a man shooting at partridges, and that a grain of shot had penetrated his left eye, below the pupil. From that date to December following, he occasionally speaks of the state of his son, of the treatment applied to his case, and, especially, of the great despondency of mind which the patient had fallen into, from the apprehension of losing his eye. But here, again, we arrive at the third lost fasciculus, and I cannot ascertain the final result of the accident, nor at what time, precisely, young Michaux returned to France.

His return must have taken place in the first three months of 1790, for in the manuscript of the following year, on the 17th of January, the elder Michaux acknowledges the receipt of a letter from his son, dated Paris, April, 1790, but nothing more is said about the wounded eye. To that accident may be attributed the partial deprivation of sight with which Michaux was afflicted.

Young Michaux reached his country at the very outbreak of the French Revolution, in which he is said to have warmly sympathized with the republican party. Such a course was not, perhaps, expected from one who had been brought up on a royal domain, and was, to a certain degree, indebted to royal munificence. But his exalted patriotism, his ambition to serve his country, his frank and bold temper, his love of liberty imbibed in this free and happy land—all these together must have raised his spirits to a high pitch; but what must have been the vexation he experienced when, on his return, he scarcely found a few remnants of the several hundred thousand young trees which his father and himself had reared in their American nurseries, and sent home for the particular benefit of his country. One-half had been given away by the queen to her imperial father of Austria; the rest had been squandered among the minions of the court, to embellish their grounds, or shamefully neglected in the royal nurseries of Rambouillet.

In the mean time the elder Michaux was continuing his explorations in North America. He travelled in all directions, over more than three thousand miles, during the eleven years which he spent on this side of the Atlantic. While thus actively engaged, the political storm raging in his country had brought on immense changes in his situation. France, ruined by royal profligacy, invaded by famine, deluged with the blood of her best citizens, convulsed by civil war, and fighting single-handed with the whole of Europe, could no longer afford to pay her naturalists abroad. Michaux was forgotten, and ceased gradually to receive his salary. After having borrowed money on his own account, after having sacrificed a portion of his own and of his son's fortune, he found himself under the necessity of returning to his country. Unfortunately, he was shipwrecked on the coast of Holland, and, after having lost the best part of his immense collections, he arrived in Paris on the 26th of December, 1796, after an absence of eleven years and four months.

On his arrival in his native land, the elder Michaux occupied his time in the cultivation of the vegetable treasures which he had forwarded from the United States, and in arranging his materials for the *History of the North American Oaks*, and for his *Flora Boreali Americana*. In these various labors he was assisted by his son, who, in the mean time, was studying medicine under the celebrated Corvisart, and attending the clinical lectures of Desault, chief surgeon of the Hôtel Dieu, with the view of returning to the United States and devoting himself to the practice of medicine; but such was not his destiny.

Neither the retired habits of a student, nor the easy and monotonous life of a Parisian abode, suited temperaments like those of the two Michaux. Such men

needed activity, and change of scene, with its toils and perils. Both were animated with the same spirit of enterprise—with the same conviction that their efforts, employed in other directions, could afford more benefit to their country; hence they were endeavoring, through the influence of their numerous friends, to infuse their views and projects into the minds of their fellow-members of the Central Society of Agriculture, and of the ministers of Napoleon, then First Consul of the French republic.

In this they both finally succeeded. The elder Michaux accepted a commission of naturalist in the scientific expedition led by Captain Baudin, and bound to the Australian seas, on condition, however, that he would be permitted to remain at the Isle of France, if he desired so to do. Disgusted with Baudin's haughty manners and want of courtesy to the scientific corps, André Michaux abandoned the expedition at Mauritius, where he remained six months, and thence started for the island of Madagascar, which, he thought, would afford him better opportunities of advancing the science of botany, and making himself more useful to his country.

After sundry explorations along the coast, he established a botanical garden at Tametave, in which he planted all the trees and plants which might be objects of usefulness or curiosity. The climate, unfortunately, was exceedingly unhealthy, and, trusting too much to his good constitution and habits of exposure, he neglected the proper precautions, was taken sick with fever, and died at the end of December, 1803.

François André Michaux, on his own account, had not remained inactive. Aroused by the example of his parent, and now fully arrived at manhood, he could not look back to the unfinished work of his father in the United States without becoming alive to the most ardent desire to achieve the object which they had both in view. Conversant with several States of the Union, confident in his own experience and abilities further to serve his country, he was, on his side, earnestly soliciting a commission to the United States.

This opportunity was at last afforded to him through the celebrated De Chaptal, then Minister of the Interior, who, feeling dissatisfied with the result of the nurseries of New Jersey and Charleston since the departure of the elder Michaux, and thinking more benefit would accrue from the appointment of native correspondents in the principal seaports of the Union, consulted François A. Michaux in the matter, and appointed him to effect those objects. He gave him instructions, at the same time, to sell the properties when he had forwarded home all the trees and shrubs remaining in the two French nurseries above mentioned.

Michaux, highly gratified, set out immediately for Bordeaux, at which port he embarked for Charleston, with the same captain and on the same vessel that had brought him home thence, some ten years previous. After a short and pleasant passage, he landed at his place of destination on the 9th of October, 1801. He occupied himself almost immediately, and during the following winter, in sending to France the trees and shrubs of the nursery; and this part of his instructions being fulfilled, he embarked for New York on the same errand.

As soon as the season became favorable, he began his herborizations in New Jersey and along the banks of the North River. In these explorations he discovered several new species of oaks and hickories, the acorns and nuts of which he sent to France in abundance. He had also the opportunity of determining with more accuracy the botanical characters of the black oak (*Quercus tinctoria*), one of the largest trees of the American forests, and also one of the most valuable for the quality of its wood, as well as for its dyeing properties.

He next visited Philadelphia, where he had the pleasure of becoming acquainted with some of her most celebrated men, among whom he mentions the Rev. Dr.

Collin, Dr. Benj. S. Barton, Messrs. Vaughan, Peale, Wm. Bartram, &c. He visited with great satisfaction the botanical garden of the latter gentleman, and the magnificent greenhouses of Mr. Wm. Hamilton, which contained a rich collection of exotics, principally New Holland plants. His attention was more particularly attracted by the latter gentleman's romantic grounds, called The Woodlands, wholly planted with every American tree and shrub that could withstand the severity of a Philadelphia winter. Finding he had a few months to dispose of, he took advantage of this circumstance to visit the States of Kentucky and Tennessee, about which he had so frequently heard his father speak in the most enthusiastic terms.

He set out from Philadelphia on the 27th of June, 1802; passed through Lancaster, Columbia, York, Carlisle, and Shippensburg; then crossing the Alleghany Mountains, he reached Pittsburg in ten days, travelling alternately in stage, on horseback, or on foot. He left Pittsburg on the 14th of July, on foot, for Wheeling, and there purchased a canoe to descend the Ohio River, in company with an American officer of the name of Craff. In three days they reached Marietta, and on the tenth day they landed at Limestone, now Maysville. From that place he travelled alone to Lexington, which he left on the 10th of August for Nashville.

Michaux remained in Nashville four weeks, which were employed principally in botanizing around the town and along the banks of the Cumberland River. On the 5th of September he set out on his journey back to Charleston, by way of Fort Blunt, West Point, and Knoxville, which latter place he reached on the 17th, after stopping several days at the Falls of Roaring River, to explore the beautiful country around. From Knoxville he travelled to Greenville, and thence to Jonesborough, the last town of Tennessee. On the 21st he began crossing the high ridge which divides the State of Tennessee from North Carolina, and, after two days of the most toilsome journey through the mountains, he reached the farm of old Davenport, who had been formerly his father's guide in that rugged region. There he remained a week, for the double purpose of resting and conversing with him about his father, who, shortly after, on the inhospitable coast of Madagascar, died a victim to the climate and to his zeal for the progress of science. Michaux reached Charleston on the 18th of October.

Such was François André Michaux's exploring journey to the western States, of which he published a very detailed account, two years afterwards, in a work entitled "*Voyage à l'Ouest des Monts Alleghany, &c. &c.*" During this journey he did not merely devote his attention to botanical pursuits, but, with his usual habits of observation and extraordinary sagacity of mind, he diligently inquired into the state and modes of agriculture, the nature of the different soils, their particular vegetable productions, and the commercial relations existing between those remote regions and the Atlantic cities. He always felt pleasure in relating the episodes of this long and toilsome journey through regions then but thinly settled, and still the abode of the roving Indian tribes.

He spoke with enthusiasm and in terms of unreserved gratitude of attentions of which he was the object: his name was a passport which insured to him a most hearty welcome, and every assistance from those who had known his father, and had received from him seeds for planting or instructions in farming. To the new settlers he was always provided with letters of introduction, which procured him the same good reception.

[TO BE CONCLUDED NEXT MONTH.]

HOW PLANTS GROW.

BY PROFESSOR ASA GRAY, CAMBRIDGE, MASS.

[We have already given the highest commendation in our power to Professor Asa Gray's most luminous rudimentary work on botany, just issued by Ivison & Phinney, New York, the title of which is *First Lessons in Botany and Vegetable Physiology*; but being anxious to enlist in its favor the whole of our readers, and through their influence to endeavor to have it introduced into schools and colleges, we applied to the author for permission to copy one of the chapters. For that purpose we selected the Twenty-Second Lesson ("How Plants Grow"), and present the necessary cuts to illustrate this interesting topic, the theory of which is so lately adopted by the scientific world as to be taught only in books of the last quarter of a century.]

"380. A plant grows from the seed, and from a tiny embryo like that of the Maple (Fig. 1), becomes perhaps a large tree, producing every year a crop of seeds, to grow in their turn in the same way. But *how* does the plant grow? A little seedling, weighing only two or three grains, often doubles its weight every week of its early growth, and in time may develop into a huge bulk, of many tons' weight of vegetable matter. How is this done? What is vegetable matter? Where did it all come from? And by what means is it increased and accumulated in plants? Such questions as these will now naturally arise in any inquiring mind; and we must try to answer them.

Fig. 1.

Germinating embryo of a
Maple.

"381. GROWTH is the increase of a living thing in size and substance. It appears so natural to us that plants and animals should grow, that people rarely think of it as requiring any explanation. They say that a thing is so because it 'grew so. Still, we wish to know how the growth takes place.

"382. Now, in the foregoing Lessons, we explained the whole structure of the plant, with all its organs, by beginning with the seedling plantlet, and following it onward in its development through the whole course of vegetation. So, in attempting to learn how this growth took place, it will be best to adopt the same plan, and to commence with the commencement—that is, with the first formation of a plant. This may seem not so easy, because we have to begin with parts too small to be seen without a good microscope, and requiring much skill to dissect and exhibit. But it is by no means difficult to describe them; and with the aid of a few figures, we may hope to make the whole matter clear.

"383. The embryo in the ripe seed, is already a plant in miniature, as we have learned in the Second, Third, and Twenty-First Lessons. It is already provided with stem and leaves. To learn how the plant began, therefore, we must go back to an earlier period still; namely, to the formation and

"384. GROWTH OF THE EMBRYO ITSELF. For this purpose, we examine the ovule in the pistil of the flower. During, or soon after blossoming, a cavity appears in the kernel or nucleus of the ovule, lined with a delicate membrane, and so forming a closed sac, named the *embryo-sac*. In this sac or cavity, at its upper end (viz. at the end next the orifice of the ovule), appears a roundish little *vesicle* or bladder-like body, perhaps less than one thousandth of an inch in diameter. This is the embryo, or rudimentary new plant, at its very beginning. But this

vesicle never becomes anything more than a grain of soft pulp, unless the ovule has been acted upon by the pollen.

"385. The pollen which falls upon the stigma, grows there in a peculiar way : its delicate inner coat extends into a tube (the pollen-tube), which sinks into the

loose tissue of the stigma and the interior of the style, something as the root of a seedling sinks into the loose soil, reaches the cavity of the ovary, and at length penetrates the orifices of an ovule. The point of the pollen-tube reaches the surface of the embryo-sac, and in some unexplained way causes a particle of soft, pulpy, or mucilaginous matter (Fig. 2) to form a membranous coat, and to expand into a vesicle, which is the germ of the embryo.

"386. This vesicle (shown detached and more magnified in Fig. 3) is a specimen of what botanists call a *cell*. Its wall of very delicate membrane incloses a mucila-

Fig. 2.

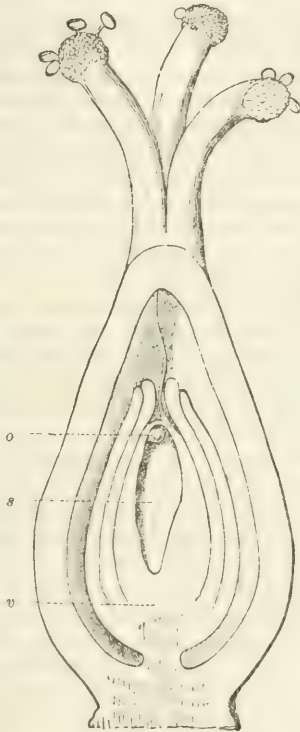


Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.



Fig. 2.—Magnified pistil of Buckwheat; the ovary and ovule divided lengthwise: some pollen on the stigmas, one grain distinctly showing its tube, which penetrates the style, reappears in the cavity of the ovary, enters the mouth of the ovule (o), and reaches the surface of the embryo-sac (s), near the embryonal vesicle (v).

Fig. 3.—Vesicle or first cell of the embryo, with a portion of the summit of the embryo-sac, detached.

Fig. 4.—Same, more advanced, divided into two cells.

Fig. 5.—Same, a little further advanced, consisting of three cells.

Fig. 6.—Same, still more advanced, consisting of a little mass of young cells.

Fig. 7.—Forming embryo of Buckwheat, moderately magnified, showing a nick at the end where the cotyledons are to be.

Fig. 8.—Same, more advanced in growth.

Fig. 9.—Same, still further advanced.

Fig. 10.—The completed embryo, displayed and straightened out; the same as shown in a section when folded together.

ginous liquid, in which there are often some minute grains, and commonly a larger soft mass (called its *nucleus*).

"387. Growth takes place by this vesicle or cell, after enlarging to a certain size, dividing by the formation of a cross partition into two such cells, cohering

together (Fig. 4); one of these into two more (Fig. 5); and these repeating the process by partitions formed in both directions (Fig. 6); forming a cluster or mass of cells, essentially like the first, and all proceeding from it. After increasing in number for some time in this way, and by a continuation of the same process, the embryo begins to shape itself; the upper end forms the radicle or root-end, while the other end shows a notch between two lobes (Fig. 7); these lobes become the cotyledons or seed-leaves, and the embryo, as it exists in the seed, is at length completed (Fig. 10).

"388. **THE GROWTH OF THE PLANTLET** when it springs from the seed, is only a continuation of the same process.

The bladder-like cells of which the embryo consists, multiply in number by the repeated division of each cell into two. And the plantlet is merely the aggregation of a vastly larger number of these cells. This may be clearly ascertained by magnifying any part of a young plantlet. The young root, being more transparent than the rest, answers the purpose best. Figs. 11 and 12 are two small bits of the surface highly magnified, showing the cells. And if we make a thin slice through the young root both lengthwise and crosswise, and view it under a good microscope (Fig. 13), we may perceive that the whole interior is made up of just such cells. It is essentially the same in the full-grown herb and the tree.

"389. So the plant is an aggregation of countless millions of little vesicles, or cells (Fig. 13), as they are called, essentially like the cell it began with in the formation of the embryo (Fig. 3); and this first cell is the foundation of the whole structure, or the ancestor of all the rest.

And a plant is a kind of structure, built up of these indi-

vidual cells, something as a house is built of bricks—only the bricks or cells are not brought to the forming plant, but are made in it and by it; or, to give a better comparison, the plant is constructed much as a honeycomb is built up of cells—only the plant constructs itself, and shapes its own materials into fitting forms.

"390. And vegetable growth consists of two things: 1st, the expansion of each cell until it gets its full size (which is commonly not more than $\frac{1}{400}$ of an inch in diameter);

Fig. 11.



Fig. 12.

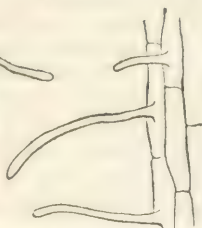


Fig. 11.—Tissue from the rootlet of a seedling Maple, magnified, showing root-hairs.

Fig. 12.—A small portion, more magnified.

Fig. 13.



Fig. 14.

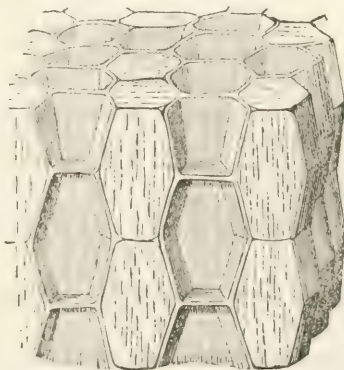


Fig. 13.—One cell, like those of Fig. 14, detached.

Fig. 14.—View of a little cellular tissue of a rootlet, cut crosswise and lengthwise.

and 2d, the multiplication of the cells in number. It is by the latter, of course, the principal increase of plants in bulk takes place."

[We trespass on the next Lesson, to make the illustration still more complete.]

"393. CELLULAR TISSUE.—The cells, as they multiply, build up the tissues or fabric of the plant, which may be likened to a wall or an edifice built of bricks, or, still better, to a honeycomb composed of ranges of cells (Fig. 14).

"394. The walls of the cells are united where they touch each other, and so the partition appears to be a simple membrane, although it is really double; as may be shown by boiling the tissue a few minutes, and then pulling the parts asunder. And in soft fruits the cells separate in ripening, although they were perfectly united into a tissue, when green, like that of Fig. 14.

"395. In that figure, the cells fit together perfectly, leaving no interstices, except a very small space at some of the corners. But in most leaves, the cells are loosely heaped together, leaving spaces or passages of all sizes; and in the leaves and stems of aquatic and marsh plants, in particular, the cells are built up into narrow partitions, which form the sides of large and regular canals or passages (as shown in Fig. 15).

Fig. 15.

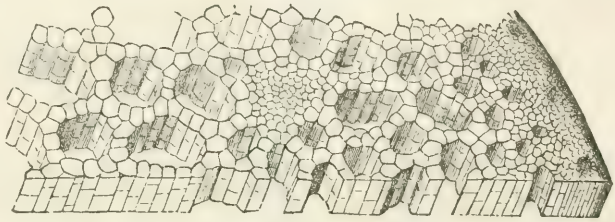


Fig. 15.—Part of a slice across the stem of the *Calla Æthiopica*, magnified.

These passages form the holes or cavities so conspicuous on cutting across any of these plants, and which are always filled with air. They may be likened to a stack of chimneys, built up of cells in place of bricks."

An ordinary size of cell is from $\frac{1}{3000}$ th to $\frac{1}{5000}$ th of an inch; so that there may generally be from twenty-seven to one hundred and twenty-five millions of cells in the compass of a cubic inch! Over twenty thousand millions of cells must be formed in a day in the flower stems of the century plant, which grow at the rate of a foot in twenty-four hours, and become about six inches in diameter.

[Could anything be more lucid or intelligible? And what is singular, it is new. Vegetable anatomy began with Malpighi and Grew, who arrived at very good views of structure, better than their successors down to forty years ago, or thereabouts. But as to production of cells, or growth by the cell, our present knowledge was opened up by Germans, and more is owing to one still living, and not old (viz: Van Mohl, of Tübingen), than to any one else. He began to publish about twenty-five years ago.

Only within the last half-dozen years, however, has it been possible to give a simple and clear account like the above of vegetable growth, all based on thoroughly verified investigations. In this we owe most to Mohl, Schleiden (and earlier, to Mirbel), not to mention a host of very recent vegetable anatomists. In England, it is principally Lindley and Henfrey who have put this knowledge into available shape for English readers; on these Dr. Gray is a decided improvement, in the clearness and brevity with which he declares the new truths.—ED.]

BOUVARDIA HOUTTEANA.*

THE old *Bouvardia triphylla* is a well known favorite, but yet not near as common as it deserves to be. Most cultivators are well aware of its beauty and interest as a pot plant for the greenhouse or conservatory; but few know how excellently it thrives in the open air, in summer, as a border plant. The whole tribe is well adapted to this mode of culture, from *B. triphylla* to *B. leianthe*, *B. longiflora*, and the handsome addition we now afford our readers an illustration of, *B. Houtteana*. As winter blooming plants for the greenhouse, there are few things superior to the different kinds of *Bouvardias*, and they are all of the easiest possible culture. They are raised from cuttings of the young wood, but much more easily and rapidly by cuttings of the roots, taken off in February, planted in sandy soil, and kept for a few weeks in a moderate hotbed. The present variety is from the princely establishment of M. Louis Van Houtté, of Ghent (Belgium), and will, we are sure, soon become common.

RETROSPECT OF THE FRUIT SEASON IN MASSACHUSETTS.

BY WILLIAM BACON, RICHMOND, MASS.

IN my last, dated early in the spring months, when the opening season existed more in hope than reality, I stated the favorable condition in which our fruit-trees had passed the severe freezing term of winter. Then, our hopes of a plentiful supply of all delicious fruits were high; but we "know not what a day may bring forth." In our New England climate, we cannot prescribe the bounds to the occurrence of wintry winds and merciless snow storms! The very heavy snow of April (the heaviest fall of the season) came moist, and remained upon the trees for some four or five days; in many instances it broke down branches. After this snow had passed away, our peaches presented a very different appearance from that of the first of the month; the young shoots withered as though a fire had passed over them; of course they were dead, and gave us no fruit—not even blossoms. Many of the trees proved so nearly dead as to become useless; others revived, and now present a healthful appearance to inspire new hopes, perhaps to wither in another spring storm. Now, the query is, what was the cause of this sudden change in these trees? It could not have been frost, for vegetation had not started, and the temperature was scarcely below freezing. Be this what it may, however, one thing is certain: it was the spring killed these shoots, and not the severity of winter.

The destiny of the cherry was very similar to that of the peach; many trees died, and others had the growth of last season destroyed. In both cases, the most vigorous growing trees suffered most. Do we not sometimes injure our trees by nursing them too much, and thus making them too tender? *This is not likely to be the case*, we are sure, but we have become convinced *it may be done*. No necessity, however, of cautioning the mass of cultivators on this point; for there are yet quite too many who manage their trees with the same degree of roughness as though harsh usage was the essential to a rapid and healthy growth.

Our peaches, then, were a total failure; cherries, a very moderate crop; apples (many apple-trees were broken down by the same sad, untimely snow storm), in

* See Frontispiece.



EOUVARDIA HOUTTEANA Schrad



some localities, and these are in a western exposure, bore well, but, as a general thing, trees are sparsely filled; pears produce the best of any of the fore-mentioned crops, and show their power of enduring a severe winter; grape-vines are well loaded, but, like Indian corn, the fruit needs a warm turn to give them maturity.

Gooseberries.—A slovenly accident has shown us, the past season, how to avoid the mildew. A favorite seedling bush, which gave us a fair-sized, delicious fruit, had, for some three or four seasons, like its transatlantic ancestors, been subjected to mildew, by some neglect, was left to take care of itself. In consequence, the tall grass entered its claim to the soil by virtue of squatter sovereignty, and usurped not only the soil, but the sunshine! Early in August, the bush was well laden with fine fruit, untainted by its former enemy. Now, grass around a gooseberry bush is a very unpleasant, slovenly object, and the mildew is a vexatious evil; of the two, however, we prefer the grass and the gooseberries.

Since we are upon this subject, we cannot but say a commendatory word in favor of the "Mountain Seedling," a variety originated by the United Society at New Lebanon, N. Y. We have for several years had it under culture, and, in our experience, it is a firm, hardy grower, the bush attaining a large size, very healthy; an autumnal and abundant bearer, and the fruit (which is a good-sized fruit) quite eatable, good for cooking and preserves, we have never known to mildew. For every purpose, it is far superior to Houghton's Seedling, which, with us, mildews as badly as any other variety, and has long ago been excluded from the garden.

P. S.—Melons and tomatoes have been an entire failure here.

GARDEN VEGETABLES, NO. 11.—ASPARAGUS.

BY WM. CHORLTON.

THIS justly esteemed vegetable has been in use, in Europe, from time immemorial, and is now seen in our own markets in the greatest abundance. In some instances, the cultivation is well understood; but still, there is need of improvement. This must be acknowledged from the fact of the stalks having, in some instances, been grown over an inch in diameter, weighing more than four ounces each.

Asparagus is the ancient Greek name of this plant; it is the *Asparagus officinalis* of botanists, and has now become so much at home on this Western continent as to be fairly claimed as indigenous. Most probably, it is truly aboriginal on the steppes of Southern Russia and Poland, where it grows so abundantly (though of a diminutive size) as to constitute a considerable part of the food of the horses and oxen in those regions. It is also to be met with on the sea-shores of Britain, and other parts of Europe, though sparsely, and most likely has only become naturalized there at a more remote period than with us. The medical properties of *Asparagus* are not very powerful; but it is certainly an active diuretic, and of great service in obstructions of the urinary organs. This fact is now being applied to advantage by the medical profession, and a substance called *Asparagene* extracted, which is found to be a convenient director of other medicines. It is also considered to be antiscorbutic, and, no doubt, is so on the above-named principle.

There is no plant that is cultivated as a kitchen esculent that will accept of more salt without injury than this, which fact I tested somewhat extremely, some years ago. Wishing to destroy two worn-out beds that had been in bearing some ten or twelve years, and had become worthless, as an experiment, I covered them fully

half an inch thick, in the fall, with common salt, expecting certain death to follow, as it did to all the weeds; but not to the Asparagus; for *that* was so much improved as to become the best in the garden, and so remained for many seasons afterwards.

Soil and Situation.—Although Asparagus will thrive in any fertile soil with a free exposure and dry under base, it prospers best in a sandy loam well enriched with decayed vegetable matter and sea-wrack. In this it always returns the most profit with greater certainty, and is of much better quality.

Propagation.—The only advisable method of propagating is by seed. So soon as the soil is in good working order after the breaking-up of frost, prepare as much surface as may be required, by digging and pulverizing thoroughly with the spade; draw drills one inch deep, and twelve inches apart; sow the seeds thinly, one inch distant, and cover over. In two or three weeks, the young plants will begin to appear like slender threads. Be careful to remove all weeds, while yet small, throughout the summer, and give a liberal supply of water during dry weather. No further care is needed until the final planting out. With regard to the different varieties, it is contended by some that there are several, and some seedsmen sell their seed as such. True enough it is, that there have been a number of sorts, and distinct, too; but we may very much doubt, at the present time, if more than one kind is ever recognized when the seed is being gathered. More might be obtained, if care was to be used, for, like most other things, this is liable to sport; and if the seeds of any individual plant that showed better properties than the others were to be kept separate, there would be a probable improvement in the progeny. This, continued through a series of generations, would most assuredly result in greater excellence.

Planting and Preparation.—As this is a crop of a somewhat permanent character, it becomes necessary to make a good beginning, as such will be cheapest in the end. The fall is the best time to commence preparing the compost. Choose a well drained, open spot—sandy, if possible; convey to this a barrow-load of rotted barnyard manure or tree leaves, to every two square yards, and the same proportion of sea-weed, if to be had; if not, use a peck of rock salt instead; next, open a trench two feet deep at one end of the plot, and remove the soil taken out to the opposite or finishing part; spread at the bottom a layer of the dung or leaves; over this put three inches of soil from the next intended trench, then a layer of the sea-weed or salt, three inches more earth, again a covering of dung, and so on until the next trench is excavated two feet. Continue on in this way until the whole is accomplished, and, in working, leave the material as rough and open as possible; so let it remain for the winter. When the ground is in a suitable state in the spring, turn over the whole base in the opposite or sideways direction; leave it two weeks in this state, and then again repeat the operation transversely. At this time, make the top level; measure off the plot into five-foot wide parts; string a line along each; mark this with the spade, for a guide; remove the line, and throw out the soil (two feet wide, and some four inches deep) on to the beds, leaving them in a convex shape, with alley-ways between. We are now ready for preparing to plant. Along the centre of the convexity string the line again; cut a trench perpendicularly, about six inches deep; have the plants carefully taken up, with the roots entire; place each one foot apart, against the side, and spread out the rootlets in the form of a fan; press the soil against them, and let the crown be fully two inches below the surface. On both sides of this row plant another at the distance of eighteen inches, in like manner; level and finish as the work proceeds. By this arrangement, we have beds five feet wide, containing three rows of plants, eighteen inches asunder, with passages two feet

wide between, which will be convenient when gathering the crop. When all is completed, cover over two inches of rotted manure as a mulching. With regard to the area of ground required for the use of a family, it may be from ten feet wide by fifty feet long to twenty-five feet by fifty; but the latter is enough for a very large supply, and the former will, in most cases, be amply sufficient. Always accept one year plants, if they are to be had, for they will be ready for use quite as soon as those which are older, with a greater certainty of success. These plants can always be purchased at reasonable prices from the nurserymen; so that, when there is not a home supply, the deficiency can be readily made up.

After Cultivation.—Asparagus is a very hardy plant, and will bear almost any amount of frost when established; nevertheless, it is well to cut off the withered tops in the fall, and cover over a mulching of some suitable material, to keep up the fertility, for which purpose there is nothing better than a sprinkling of guano, and a thick layer of sea-weed; but when this cannot be got, the next best substitute is a dressing of salt and barnyard manure or rotted leaves. The young shoots ought not to be cut until the third year after planting, unless there has been an extraordinary luxuriance; but after this, the beds will continue to yield in abundance for twelve or fifteen years. Much, however, depends upon a good beginning, and the after yearly dressings, besides which, when it is seen that the continually rising sprouts are becoming weak from prolonged gathering, it ought to be discontinued. No exact rule can be laid down as a guide, in this respect, but generally, it may be extended to a period of two months; and remember, further, that unless all the sprouts are kept cut during this time, the roots will almost discontinue to produce more; consequently, the crop will be much reduced.

Forcing.—There is no vegetable more readily forced than Asparagus, and there are different contrivances for accomplishing the object. The most perfect mode is, to have one or more beds prepared as above, in a line with, or being a part of, the forcing department for vegetables. The covering for this may be in the form of a low double or single span house, and should be so joined together, that all the sashes can be removed during the summer season. If a regular succession be required from New Year until that in the open ground is ready, it will be necessary, in the Northern States, to have two compartments. In the earliest, heat may be applied about the 1st of December, and in the second, the beginning of February. Of course it is understood here that a common flue, or hotwater pipes, will be needful, and as none but those having large establishments will adopt such a plan, it is expected that a proficient designer would superintend the erection. I may say, however, that the house figured in the January *Horticulturist* (art. Cucumber), would be most suitable. Another method is as follows: Excavate a space six feet wide, two feet six inches deep, and as long as may be desired; build up the sides with bricks or stone; erect another wall ("pigeon-hole" fashion) three feet away from the first, so as to leave a cavity of two feet six inches all around, and between the two. There will now be a space of three feet wide in the centre. Fill this up with (first) six inches broken bricks or loose stones; over which, cover with inverted grass turfs, and the remaining two feet with suitable material for the plants to grow in; plant out in the same way as open ground culture. In two or three years, the plants will be strong enough to force; and when such process is intended, place over the bed a double span, close-boarded frame, one foot high on the sides; fill in the cavity above mentioned with unfermented, but hot stable manure; bank this up to the sides of the frame, and as it sinks down, add more, so as to keep up the warmth. When the winter milds off, the covering may be removed, and the shoots allowed to grow. So far, I have only spoken of permanent construction, without regard to expense; but we can go much more cheaply to work, and

in a way that will be more generally acceptable, the only drawback being the destruction of the roots afterwards, which, in the other methods, is not the case. In this example, immediately before the frost sets in, dig up a sufficient quantity of strong bearing roots, and cover them with earth, in a cool cellar, to be ready when wanted; or, otherwise, put over the bed enough litter to prevent the ground freezing. As light is not required to develop the sprouts, the roots may be planted in earth, the crowns being covered two inches, and as close together as they can be packed, in a warm cellar, or under the stage of a greenhouse, where a night temperature of 50° to 60° is maintained, which is most suitable for all purposes in forcing this plant. About fifty roots will give a good dish every three days during four weeks—after which, they become exhausted, and of no further use; consequently, another lot will have to be coming on to meet the deficiency. And it may be further calculated, with the above warmth, that three to four weeks' time will bring the shoots long enough to be cut. If there be not any other convenience, a common hotbed and box frame will answer the purpose, the making of which has been described in former articles of this series. Care, however, should be exercised as to the bottom heat; for, if too strong, the roots will be scalded, or forced up weakly. Before planting, in this case, cover the surface with turf sod, and pack the roots close, as above stated. When the shoots begin to appear, give as good a supply of fresh air as the state of the weather will admit of, but do not let the thermometer sink below 45°, nor rise higher than 60°.

In the cutting of Asparagus, it has become a common practice to insert the knife below the surface of the ground. So general is this, that it would scarcely sell in the market, unless the lower ends of the shoots were white. Now, the whole of this underground part is tough and stringy, and nothing but fashion's prejudice can tolerate the unnecessary act.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

FROM THE COUNTRY GENTLEMAN.

THE autumnal meeting of this Society was held in September. We give a condensed account of the proceedings, embracing the more interesting facts stated in the discussions.

Leaf Blight and Cracking in the Pear.—Members generally had found these two maladies to go together, but not invariably. The leaf-blight more frequently attacked young plants in the seed bed, and sometimes larger orchard trees. When on bearing trees, it always produced cracking; but the fruit was often known to crack while the trees were unaffected with leaf blight and in the thriftiest state of growth. L. E. Berkman informed the meeting that the leaf blight in Belgium was unknown, while cracking of the fruit was frequent; but the climate was so moist, that twenty days in a summer without rain, would be called a dry one. Other members had observed cracking caused exclusively by wet weather.

Cracking seemed in many cases to depend on the soil, and an instance was mentioned where trees of the Virgalieu, on the grounds of T. G. Yeomans, of Wayne County, where the fruit of this variety is always ruined by cracking, were removed to the grounds of a neighbor, and afterwards bore fair and excellent fruit. But the disease could not be caused by *exhaustion* of the soil, several instances being mentioned where it had occurred on young trees, on new soil, and in one case the first crop, out of nine or ten, was the only one affected.

As it had been found that young seedlings once affected, were more apt to be troubled with leaf blight the following year, the opinion was entertained that it was a very small fungus, whose extremely minute seed were carried through the sap-pores to all parts of the plant, and were ready to germinate and develop themselves whenever the wet weather favored their growth on the surface of the leaves. It had been proved that the seed of the little fungus that produces rust in wheat, were carried from the grain or seed up the stalk in the sap, these seed being immeasurably smaller than the pores; and it was in accordance with analogy to suppose that the leaf blight was similarly propagated.

Among the sorts of pear not liable to cracking, were named the *Ananas d'Ete*, *Flemish Beauty*, *Beurré d'Amalis*, *Bartlett*, and others.

Trees on New Soils.—The question was discussed whether trees grown on soils which had been previously occupied with trees, and enriched by manuring, was as good as those on new soils, or those previously occupied with farm crops merely. The members generally had found a second crop of nursery trees from the same land, inferior to the first, even with considerable manuring, unless some years of "rest" intervened, which period appeared to vary with the natural strength of the soil from two to eight years. *Rotation* in tree crops was found important as well as in farming; for example, it was stated by T. C. Maxwell, of Geneva, that he grew cherry seedlings on land one-half of which was previously used for dwarf pears, and the other half for cherries. The cherries after the cherries, were only one-half as large as after dwarf pears. He had grown fine cherries after a crop of peach-trees. Some of the members, and especially P. Barry, thought that trees raised on manured old ground were not so healthy as those on new soil, the latter affording fibrous roots in abundance, while on old soils made rich with manure, the roots are thick, forky, and few in number.

Dwarf Pears for Orchard Culture.—Many interesting statements were made on this subject. Several very striking proofs were furnished of the profits of dwarf orchards. T. G. Yeomans, of Walworth, Wayne County, had large plantations of dwarf trees. They were eight feet apart each way, and were cultivated by two horses walking abreast, quite as perfectly as could be done in a garden by hand, and at less expense than the culture of corn and potatoes. His trees are about eight years old. His Angoulemes bear now about a bushel per tree, and sell readily for fifteen dollars per barrel. Many of the pears weigh about a pound. A member stated that he had, that morning, measured and estimated half an acre of dwarf Virgalieus on Ellwanger & Barry's grounds, and found that 120 bushels per acre would be below the actual product this unfavorable year, the price being \$3 per bushel at least. The trees are but six years from the bud. Last year the crop was about the same; the year before, or when but four years from the bud, they yielded at the rate of \$500 per acre. They had a row of the Louise Bonne of Jersey, eight years old, that at the same rate per acre, would yield 500 bushels, and they readily sell at \$3 per bushel. The cultivation is not more costly than that of a cornfield. W. P. Townsend, of Lockport, who has had much experience, made the following statement on this subject: Seven years since, he commenced raising trees. A quantity of quince stocks were imported, and set in the usual manner, in nursery rows, and budded with pears. At the age of one year, one-half the pear-trees were dug out. He then determined to leave the balance in such a manner that the ground might be occupied by a pear orchard, which was done by removing *two* rows and leaving *one*, which made the distance ten feet between the rows. The rows thus left were thinned out so that they stood three or four feet apart. At the distance of twenty feet in each alternate row, a standard pear-tree was planted, so that the ground was cut up

into squares of ten feet, which I think is the proper distance for a dwarf and standard pear orchard. The dwarf trees on this plot are now five years from the bud. The land occupied by these trees is about one acre. The product this year (eleven barrels Bartlett) sold for \$10 per barrel, and by estimate, the balance of the crop will be thirty barrels, which is sold at the same price. These same trees, in 1855, yielded eighteen barrels; in 1856, but a small crop. The varieties are Bartlett, White Doyenné, Le Cure, Louise Bonne de Jersey, and Duchesse d'Angouleme, with a number of varieties planted as specimen trees. Mr. T. had not the least doubt but the culture of pears upon quince could be made profitable. But the planter of dwarf trees could not expect a return without at least giving his trees as good tillage as he does his potato field; and the course taken by most planters has been quite the contrary, which has in a great measure been the cause of the prejudice against the planting of the pear on quince. There is not the least question but that the planting of trees and their cultivation can be profitably made to replace the loss of the wheat crop; nor is there any cause to fear over production, so long as the western portion of our land is open to us as a market.

It was generally conceded that the cause of failure in dwarf pear culture, was owing to a bad selection of sorts, and to the almost universal neglect of cultivation, planters generally not giving their trees anything like the attention they do their common farm crops.

The proper depth for planting dwarfs was discussed, and it was the general opinion that it was best to have the point of union about even with the surface of the ground. If much deeper, the pear would throw out roots, which experience had always shown made bad trees; the roots being few and one sided, the trees grow obliquely. Bending the newly formed roots around the tree, partially obviates this difficulty. If the quince is above ground, the borer is apt to attack it.

Best Form for the Standard Pear.—The general opinion was, there should not be a tall, naked stem, liable to injury by exposure to the sun's rays. Some members preferred a short trunk, some two feet high; others would allow the branches down to the ground. The objection that low branches prevented cultivation, was shown to be erroneous, by the fact that the great mass of the roots extended far beyond the spread of the limbs.

The best Age for Nursery Trees.—Many striking facts were stated, showing that the common eagerness for large trees to set out for orchards, was a very mistaken one, two and three years from the graft or bud being as old as was profitable in any case. In many cases, large and small trees had been set out side by side, and in three or four years the small ones had always outstripped the others.

Raspberry and Blackberry.—The following interesting facts were given by different cultivators present:—

Charles Downing said that the variety known as the Hudson River Antwerp, was the only sort cultivated largely for the New York market. The product was from \$300 to \$800 per acre. Sold, at wholesale, at ten cents a basket, and three baskets made a quart.

H. E. Hooker, at ten cents a quart, found the yield here to be about \$140 per acre. Had taken correct account of one bed containing sixteen rods—one-tenth of an acre, and containing one hundred and thirty-six hills four feet apart each way. The product was two hundred quarts, which, at 12½ cents per quart, would be \$25. Charging the cost of picking and marketing, manure and cultivation, and cost of plants, use of land, &c., at fair prices, there was left a clear profit of fourteen dollars and eight cents on this small piece of land.

C. L. Hoag, of Lockport, sold over one hundred quarts, this season, at sixteen

cents. Brincklé's Orange is not only the best fruit, but bears altogether the best crop. He did not think it firm enough to bear carriage a great distance. The plant is hardy, though he found that when covered in winter a better crop is produced, and finer. The Hudson River Antwerp killed back unless covered.

Nathaniel Draper, of Rochester, had grown the Red and Yellow Antwerp on the same soil for twenty-five years. Used no manure during the time, but kept the weeds down, and the canes tied to stakes. Never lost a crop, but plants taken from his beds and planted in highly manured soils, have proved barren. Others had observed that high manuring had resulted in strong growth and unproductiveness.

P. Barry thought that raspberries might be raised for six cents a quart at a good profit.

The following remarks on the management of the blackberry, were made by C. P. Bissell, who has many thousand plants under cultivation: The young plants should have good roots. The first season, the branches spread on the ground; the second and third years throw up strong shoots. Should be planted in rows some eight feet apart, and about the same distance in the rows. For training, the best way is to set posts, and run two wires from post to post, to which the bearing canes should be tied. In the spring, cut the canes back to about five feet, and also shorten the laterals to five or six buds, or they become so heavy with the weight of fruit as to break from the cane. The blackberry fills a vacancy between raspberries and peaches. Had picked over four hundred berries from one plant. After bearing is over, the canes may be untied from the wires, and allowed to fall by their own weight. When fully ripe, the fruit was good, but persons often picked it before ripe.

P. Barry thought the High Bush or Dorchester Blackberry better and more valuable than the New Rochelle.

Charles Downing thought the former the best flavored, but it was not so large nor productive as the New Rochelle. The Newman was sweeter than either, but not very productive.

It was resolved, unanimously, to adopt the name *New Rochelle* for the variety known by this appellation, instead of *Lawton*.

Select Lists of Market Fruits.—A very valuable result was obtained, by each member preparing, in the form of a ballot, a list of the twelve best pears, twelve best apples, and six best peaches, exclusively for marketing. Twenty-one votes were given, and the following list shows the number received for each, omitting all those that received but one vote. There were fewer ballots given for the peaches:—

Pears.

Bartlett	19	Theodore Van Mons	4
Louise Bonne de Jersey	18	Glout Morceau	3
Duchess d'Angouleme	18	Beurré Superfin	3
White Doyenne	17	Urbaniste	3
Easter Beurré	16	Bloodgood	3
Lawrence	16	Brandywine	3
Seckel	12	Beurré Giffard	3
Vicar of Winkfield	13	Beurré Clairgeau	2
Flemish Beauty	11	Beurré Bosc	2
Beurré de Anjou	9	Onondaga	2
Beurré Diel	8	Rostiezer	2
Tyson	8	Stevens' Genesee	2
Sheldon	6	Osband's Summer	2
Buffum	5	Ananas d'Ete	2
Belle Lucrative	5		

Apples.

R. I. Greening	19	Golden Sweet	6
Baldwin	18	Gravenstein	6
Roxbury Russet	17	Golden Russet	4
Red Astrachan	14	Yellow Bellflower	4
King of Tompkins County	13	Swaar	3
Talman Sweet	13	Jonathan	3
Northern Spy	12	Rambo	3
Esopus Spitzenburg	12	Seek-no-Further	3
Fall Pippin	9	Duchess of Oldenburgh	2
Sweet Bough	8	Peck's Pleasant	2
Primate	7	Porter	2
Cayuga Red Streak	7	American Summer Permain	2
Early Harvest	6	Vandevere	2

Peaches.

Crawford's Early	15	Old Mixon Cling	2
Crawford's Late	13	George 4th	2
Old Mixon Free	10	Early Purple	2
Early York	9	White Imperial	2
Morris White	5	Red Cheek Melacoton	2
Cooledge's Favorite	4	Smock's Freestone	5
Large Early York	4	Walter's Early	2
Honest John	3		

NEW PEARS.

BY L. B.

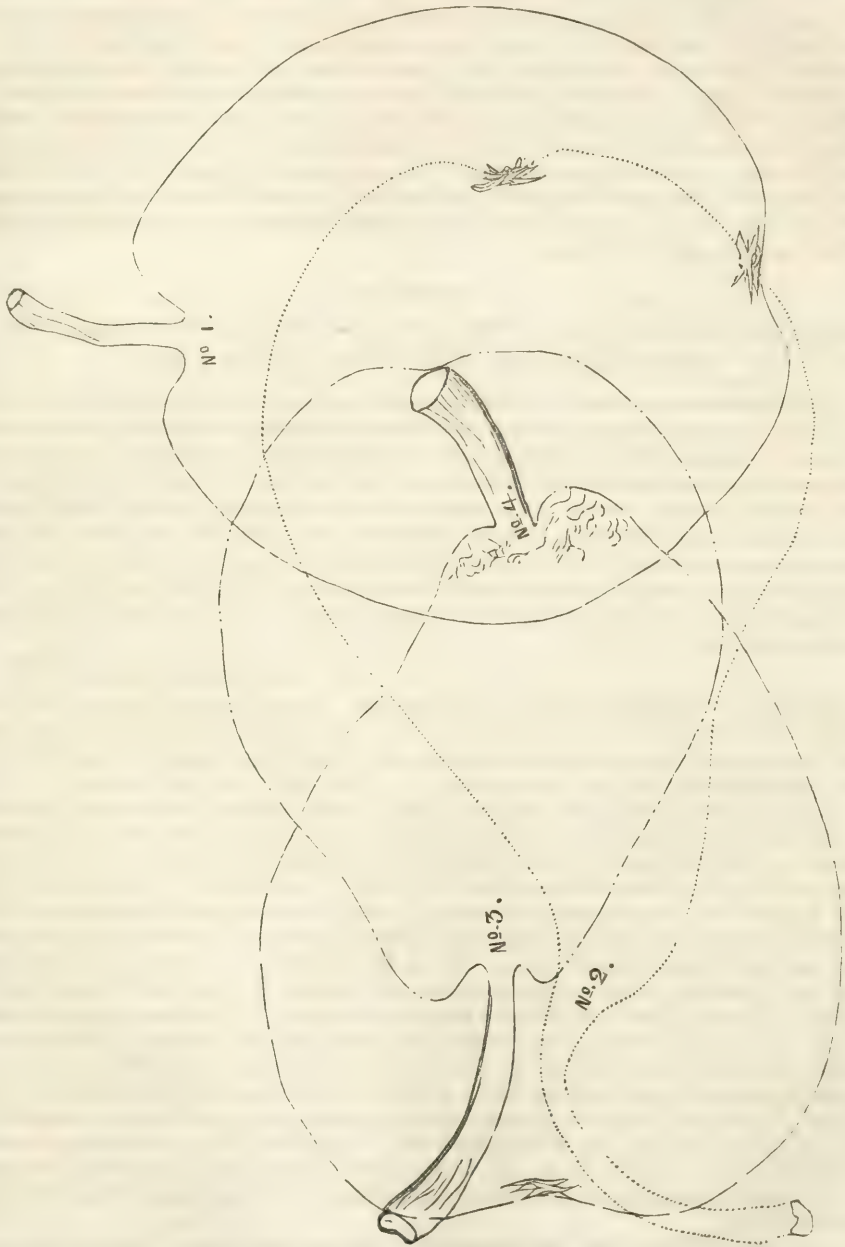
WE present the readers of the *Horticulturist* with outlines of some new French Pears with high-sounding names, from a valued correspondent in Belgium; but we do so with a caution attached. It may save our friends from imposition.

No. 1, *Général de Lourmel*.—Large, round; dark green, spotted and *waved* with dull red and brown. Seedling, 1847; produced in 1853—good quality. November. Comice of Angers.

No. 2, *Général Bosquet* (Flon grolleau).—Light green; slightly spotted with red. End of September. Second quality. Seedling, 1845; production 1853.

No. 3, *Maréchal Pellisier* (Flon, Ainc).—Light, olive green, with dull red on the sunny side. End of September. Second quality. Sown in 1845; produced in 1853.

No. 4, *Lieutenant Poidevin*.—Yellowish-green, spotted with red and brown. Seedling of 1845; productive in 1853. Second quality. March to April. (Perhaps the most valuable, being *late*.) (Flon grolleau.) How pears of second, and only *good* quality in *September*, when we are in the enjoyment of a host of delicious pears, can be admitted in catalogues on the faith of their high-sounding names, and large sizes, seems to us somewhat surprising. They are nearly all very new, and of course will be unsteady till their standard value be settled or *sealed* by some years of cultivation. It is possible that some may improve in quality; but our experience with foreign pears has made us acquainted with a circumstance which leaves us little hope of such a result. Pears of second quality, or deficient in high, juicy, buttery, and sugary characters, in their native transatlantic countries, are uniformly of *third* quality in this climate; while rich and *generous* fruits, as the *Lucrative*, *Flemish Beauty*, *Beurré D'Anjou*, &c. &c., are perhaps better, or, at least, as delicate and rich here as in England or Belgium—as good as in the South of France.



No. 1. Général de Lourmel.
No. 3. Maréchal Pelissier.

No. 2. Général Bosquet.
No. 4. Lieutenant Poidevin.

We would not deter our amateurs from giving these, and all new varieties, a fair test; on the contrary, we have room and means enough, in our extensive land, to allow us to make trials on large scales, in all kinds of soils, localities, and climates. If only one new variety out of a score, proves to be as valuable as the *Bourré D'Anjou*, for instance, we shall have lost neither our time nor our money. Meanwhile, let us *sow*, and depend upon our native varieties a great deal more than upon *immigrants* of an uncertain character, and of doubtful adaptedness to our climate. *Let us sow, gentlemen!* When nature has done so much for us as to give us, in stray seedlings, such pears as the Dix, the Tyson, the Kingessing, and so many others, what may not be the result of our combined efforts to help that bountiful mother, Nature?

MR. LONGWORTH AND MR. MEEHAN ON SEXUAL CHANGES IN THE STRAWBERRY.

[THE "strawberry question" is a very important one, so far as the credit and character of a nurseryman are concerned, though it has very little bearing, in a practical point of view, where a distinction between a pistillate and hermaphrodite is quite material. It is strange that such a simple question cannot be at once and forever decided. If any of our friends have any additional facts or observations to record, we shall be willing and glad to publish them. In the absence of any new facts, however, we think the discussion ought to stop; and, that no party might have any cause to complain of injustice, we thought proper, before applying the brakes, to send the following note of Mr. Longworth's to Mr. Meehan, so that, if he had any remarks to make, they might be inserted together. The two papers will be found below.—ED. HORT.]

CINCINNATI, September 26, 1857.

EDITOR OF HORTICULTURIST, PHILADELPHIA: I am informed by an article in your publication (from Mr. Meehan), that "Dr. Warder believes in the change of the sexual character of the strawberry plant: the pure staminate to a pistillate, or hermaphrodite, and a like change in a pure pistillate; and a change in my prolific (Hermaphrodite) to pure pistillates, as was the case in his own garden, and recently in the garden of C. Legg, M.D." The latter, I am pleased to learn, made no such statement; for, if modesty did not forbid it, I would say, not that persons holding these doctrines were "dishonest," but merely "stupid," and know as little of the true sexual character of the plant as the great Linnæus and his learned followers till the world was enlightened through a chance observation of an ignorant market-woman's son. What Dr. Warder says is true. The crop of all the Hermaphrodites I have ever seen, is uncertain, except with the Prolific (unless Ward's Albany Seedling be also an exception). The Iowa, some seasons, bears nearly a full crop; other seasons, not more than half a crop. The cause is this: Some seasons, nearly all the pistillates in the blossoms are perfect; in others, entirely defective, and bear no fruit, or in part defective, and bear imperfect berries. In raising from seed, I have always found a large portion pure staminate or pistillates, and but few hermaphrodites. I have this season planted seed, and expect to raise 20,000 plants; the hermaphrodite and pistillate seed kept in separate beds, to ascertain whether the sexual character of the parent will operate on the children.

As your Banks of issue have suspended, these are hard times; here we have no Banks of issue to suspend. In seven years, I have seen but four Cincinnati bank notes. Hard as times are, I will present Mr. Meehan with a handsome silver

goblet as soon as he publishes a letter from Dr. Warder, *acknowledging the corn*. I will remain quiet as soon as he gets Mr. Buist and Dr. Brinckle (his neighbors) to concur in his opinion. This he should be able to do, as he says "both Eastern cultivators and Cincinnati are of the same mind, after all." I have never heard of such an opinion from any Eastern cultivator but Mr. Downing. He published such a change in his bed of Hovey's Seedling. Unfortunately, his statement led persons to visit his garden, and they found some "bull had jumped into the pen." Unfortunately, neither Mr. Downing nor Dr. Warder noticed the stems and leaves enough to distinguish the difference. The stem and leaf of the Prolific will distinguish it from the Hovey's Seedling and McAvoy's Superior, at a distance.

Yours, truly,

N. LONGWORTH.

DEAR SIR: In my paper referred to by Mr. Longworth, there is no such sentence as he appears to quote as my words. Dr. Warder's name I only used incidentally. Mr. L. has evidently been quoting from memory, and his memory has deceived him. Mr. L. will see that it was Dr. Ward that I had reference to, or, rather, the Cincinnati Horticultural Society, which seems to have adopted the doctor's views. I quoted exactly the doctor's words, which (unless we adopt Talleyrand's definition of language as "a power given to man to enable him to conceal his thoughts") acknowledges "the corn" quite sufficiently, in my poor opinion, to give me a claim, without further support, to that silver goblet.

It will surprise many who have been accustomed to hear "that any change in the sexual characters of the strawberry is utterly impossible," now to learn, from Mr. Longworth himself, that all hermaphrodites are uncertain except the Prolific, sometimes becoming nearly all pistillate, in other seasons nearly all staminate. Would Mr. L. favor us with some physiological reason why the Prolific should be exempt from the same laws that govern the changes in the others? That it is more constant in the locality which gave it birth than others introduced from other places, is no proof that it would maintain that character with the circumstances reversed.

Now that hermaphrodites are excluded from the "unchangeable," we have the question much simplified. As Mr. L. names Hovey's Seedling, we are left to infer that the pistillates alone are the patterns of immutability; but why the Iowa should be permitted to possess the power to suppress or develop its pistils at will, and the Hoveys be denied that privilege in the use of its stamens, I am at a loss to understand.

Mr. L. has never heard of any other Eastern cultivators but "Mr. Downing and Mr. Meehan," &c. Very fortunate, indeed, are these other gentlemen. If they are wise enough to profit by my example, they will remain in the same enviable state of obscurity. Whatever some of our friends may believe, I do not know. I have not asked or sought the opinions of any one. I have stated facts simply as I observed them. Messrs. A, B, C, or D, may have had reason sufficient to agree either with me or Mr. L., as the case may be. I should be sorry to follow Mr. Longworth's example, and offer to shape my course by the convictions of any third parties. With all due respect for the experience of Mr. L., or any other person, I must say that I have had opportunities of observing the strawberry under a much greater variety of circumstances than Mr. L. ever had, or some others whose judgment Mr. L. prefers to my own. If it should happen that they differ from me, it would not therefore be so very surprising.

In my opposition to Mr. Longworth's unchangeable views, I have been actuated from the first by the desire to benefit others. I had no purpose of my own to serve. I was not then a nurseryman; had not been caught in such an act of

"stupidity" as Mr. L. attributes to the Clifton nursery. Feeling that, in most such cases, injustice was done to the nurserymen, and with the power which observation under rare circumstances afforded me to aid them at my command, I did not hesitate what course I had to pursue. That the time will yet come when my efforts will be appreciated, I am well convinced.

THOMAS MEEHAN.

THE JACKSON APPLE.

PHILADELPHIA.

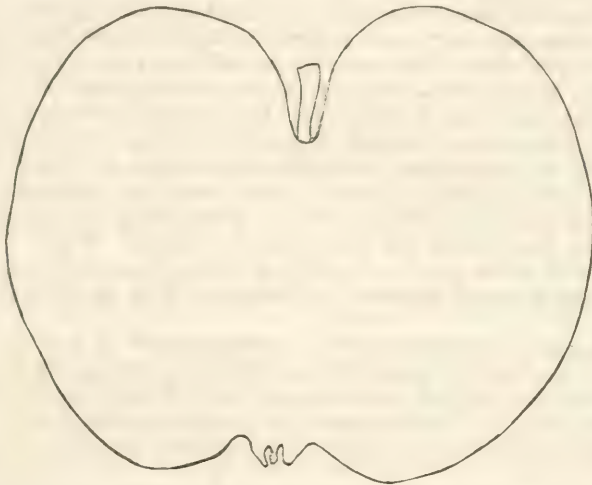
MY DEAR SIR: The apple you received from Wilson Dennis, of Applebackville, Bucks County, Pa., and which you did me the favor to leave with me, I recognize as the Jackson. Other specimens from Mr. Dennis, of the same apple, were handed to me for examination.

This valuable variety originated with James M. Jackson, of Quakertown, Richland Township, Bucks County, Pennsylvania. My acquaintance with it commenced

in March, 1851, at which time I received specimens grown by Mr. Jackson, who very kindly forwarded to me grafts from the original tree.

Annexed is the pomological description I promised to send you.

Size, medium, two and one-half inches by three and one-fourth. *Form*, roundish. *Skin*, greenish-yellow, with many dark green blotches and gray dots, a few very faint red stripes scarcely perceptible, and, on the exposed side, a warm, mottled-brown blush, containing numerous



The Jackson Apple.

white dots with a central gray speck in each. *Stem*, variable, from three-eighths to seven-eighths of an inch long by one-sixteenth thick, inserted in a deep, narrow cavity. *Calyx*, closed, set in a moderately wide, deep, and sometimes slightly plaited basin. *Core*, medium. *Seed*, gray, five-sixteenths of an inch long, three-sixteenths wide, and two-sixteenths thick. *Flesh*, greenish, fine texture, tender, juicy. *Flavor*, deliciously aromatic. *Quality*, "very good," perhaps "best." *Maturity*, from October to May.

I inclose an outline.

Very truly yours,

W. D. BRINCKLE.

J. Jay Smith, Esq.



A JOG IN THE FRUIT GARDEN.

BY THE LATE A. J. DOWNING.

WHEN the month of November comes, it is worth while to look about a little, and see how you stand in the garden and orchard. You must be a miracle of expertness if you have not failed in some crop or other, or if some tree or plant has not baffled your wits. Well, this being the case, now is the time to look about, and resolve either that you will succeed better next year, or that you will abandon that crop altogether.

So, go into your kitchen garden. If your soil is poor, or worn out and full of insects, this is the very time of all others to doctor it; and here is my prescription, which I have proved over and over again: Clear off the plot of ground to be renovated, and cover it with a good dressing of *fresh stable manure*, with the litter in it. Begin at one side of the plot, and throw up the soil into ridges, digging it about eighteen inches deep, and mixing the manure through the soil as you dig. Here let it lie all winter. The atmosphere and the frost will have a grand chance to do their best in bettering the quality of the soil itself; and the essence of the manure will not only be all taken up by the soil, but its coarseness will be broken down by the spring, so that your plot will be in the best possible order for vegetables when the swallow comes.

If you are troubled with grubs and insects in the ground (and you must be something more than a "big bug" yourself, if you are not), then you must also treat it with a dose of salt. Scatter any refuse or coarse cheap salt over the earth, before you begin to ridge it up, at the rate of a bushel to the eighth part of an acre—or eight bushels to the acre. Put on at this season, it will do no harm to anything vegetable, and will thoroughly rid you of these enterprising little gentry, that crawl out of the ground in May and June, and quietly play Guy Fawkes to the roots and stems of the tenderest things that the pot boils. Besides, leaving out of sight the virtue of salt as a manure, it helps all *dry* soils amazingly, giving them greater attraction for moisture, and greater power to hold it in dry weather; and that is no mean thing for a crop that gets thirsty in mid-summer.

In the review of your forces at this season, before they go into winter quarters, it is ten to one but you will find, staring you in the face—possibly not ten paces from your door-steps—some excellent old friends, whose acquaintance you begin to be ashamed of, and are sorely tempted to cut at once. I mean some good old *fruit trees*, still very sound and healthy, but utterly refusing, for years past, to bear any good fruit. Possibly they are Virgalieu or Butter Pears, Pippin or Pearmain Apples, whose good name is a thing handed down to you by your ancestors; and you are therefore not a little sorry to *cut* them. Don't do it. Let us have a little talk over these trees.

Did they ever bear good fruit in this soil? "Bless you, yes!—such fair golden skins, and luscious, melting flesh, as I seldom see now-a-days." How long ago is it that they have stopped bearing such fruit? "Say a dozen or fifteen years." What have you done for them? "Not much—scraped the bark, washed it with soapsuds—spread a little compost over such as stand in the grass. Those that stand in the garden, you know, are in good rich soil; so, of course, they could not want for manure."

This is what my friend says; but I don't believe a word of it—I mean of the last part, that they "don't want for manure." If I were a "Hoosier," or a "Buckeye," I should say they don't want "anything else." Have not they the

same atmosphere to breathe, the same rain to drink, the same climate to enjoy, as when they bore the fine crops of fruit which you lament? What has changed? Nothing—absolutely nothing—but the soil.

Need I go any further to establish this? I hope not. But the soil is probably pitifully *run out*—run out, past the power alone of stable manure to bring it up again. It is run out, as the chemists say, in “lime and the phosphates.” But it can be renovated, just as surely as there is manure, and, lime, and the phosphates to be had; and you may set about it now, if you please, for this is the best time in the world to begin.

Now, to do this well and thoroughly will cost from two to three dollars a tree, labor and all included. An old officer of this sort, that has been off duty and on half pay for ten or fifteen years, can’t be brought into active service again without squaring up old accounts somewhat; and you must make up your mind to this, or else have no further fruits from the old veterans.

Supposing we commenced with a middle-aged pear or apple-tree, with a sound constitution, which has been sulking for some time past on half pay. Now, it is all very well to say that this tree don’t want animal manure. Its roots have been in the same place for twenty-five or thirty years, with only a little sprinkling of something stimulating over the tops of the soil, which the grass, indeed, has pretty much taken to itself, or a slight yearly dressing of compost (if it has stood in the garden) which the vegetables have devoured. Look at its little short-jointed shoots and unthrifty growth, and you will see that, first of all, it wants manure.

Very well. Now clear away everything in the shape of trees, shrubs, bushes, or vegetables of any kind that stand within fifteen feet of the trunk of this tree. Next, bring a good two-horse wagon-load of fresh stable manure, and trench it under as deeply as the roots will let you, and particularly *beyond* where the roots extend. It is as foolish to put manure within five or six feet of the trunk of a tree, as it would be to pour drink over the back of a thirsty man. At the *very outside of the roots*, trench the soil two feet deep, and mix the manure with it, leaving it rough and loose for the winter; for it is there—at this outside limit—that the roots will get a good living again.

But this is not the whole which is to be done. Remember that lime and the phosphates must be supplied, for it is above all these that old soils grow poor in. It would not do to put them in with the fresh manure, since they would not agree well together, but would go to decomposing one another, instead of making a succession of good dinners for the “feeders”—that is to say, the little fibres of the roots.

But next spring, as early as the soil is dry, you must apply to each large tree, manured in the fall, two bushels of ashes and a peck of plaster or gypsum, and, if it be a pear-tree, a half bushel of bone dust. If it is an apple-tree, you may substitute a peck of air-slaked lime for the plaster. Spread this evenly over the soil that was dug and manured last autumn, and mix it through the whole with a stout three-pronged fork. This will bring the soil to a good condition again; and the old tree will speedily commence making new roots, setting new fruit buds, and, the next season, begin to bear fine fruit again. And this I do not give you from theory, but from actual trial, under the most unfavorable circumstances.

I do not tell you to prune your tree, because I very much doubt the wisdom of it the first year. I would only see that the bark is clean and smooth; and give it a little more *soft soap*, if necessary, in that quarter. After the tree has begun to exhibit signs of feeling the *full pay* you have given it—say twenty months hence—then you may, if needful, prune it moderately. When, indeed, the tree is

partly decayed, or broken, or full of tangled and cross limbs, I would be a little severe with it at first, but not otherwise.

This is the season when a shrewd old digger should go over his peach and plum-trees, scrape away the earth about the bottom of the trunks, and look for that little rascal, the peach worm. If he is there, expecting that "there is a good time coming," now that he is in such comfortable winter quarters, you will know it by the gum, by which the tree always shows to its natural protector the presence of its enemy. Wherever you see this gum, take your knife, open the bark, and take out the vile grub. If he stays there a few months longer, he will completely circumnavigate the trunk; and, after he has been round the world in this manner, there are no more peaches for you. It is a matter of five minutes to a tree; and, if you grudge that pains, for rareripes, the grub will take five months at it, and get the better of you.

If you are planting fruit trees, don't be so foolish as to set "tender trees," such as apricots, nectarines, and so forth, in warm, sunny places, on the south side of walls, fences, and gardens. Such are, depend on it, the very spots to kill them—between the extra heat of mid-summer, and the constant freezing and thawings of the trunks in winter. You had better choose a west, or, if not too far northward, even a due northern exposure. The latter is much the best in the Middle States.

Never plant a tree with small roots and large top—when the roots have been made small by the spade in digging—without making the latter small also. There must be some ballast in the hold to carry so much sail on the mast, as an old salt would say; and you will gain in the health and size of the tree, three years hence, by shortening back the *ends* of the longest limbs till you have struck a fair balance between the part that collects food and the part that consumes it.

Yours,

AN OLD DIGGER.

SCIENCE AND HORTICULTURE.

PEAR BLIGHT.

BY R. R. SCOTT, ROCHESTER, N. Y.

AN article in the last *Horticulturist*, by "TERRA," somewhat timidly suggests the probability of the disease known as "*Leaf blight and cracking of the Pear*," being caused by a fungus somewhat similar to the vine mildew, or *Oidium*. The writer need not be the least timid, even though his idea should conflict with the theories of our ablest American pomologists, which I admit it does. Not one of them can offer anything more plausible or as much so, as this, for which there is the highest European authority, that of "M. J. B." of the *London Gardeners' Chronicle*, also the most eminent Continental cryptogamic botanists. With such opinions on his side, he can readily dispense with the confirmations of merely practical fruit growers, whose opportunities and pursuits shut them out from the difficult and obscure field of microscopic botany. Let no sneers deter the earnest and humble inquirer from his purpose. The intelligence and powers of reasoning with which man has been endowed, urge him to persevere until the hidden and marvellous phenomena of nature hitherto unapproached by the naturalist shall be clearly defined. Man's manifest destiny and progressive spirit demand that he shall declare the truths of science in the face of all human ignorance and opposition.

This very reasonable cause has been laughed at by many known writers in this country, but this will not render it any the less true or plausible.

EDITORS TABLE

THE LIFE OF FRANCOIS ANDRE MICHAUX, commenced in the present number, will be concluded in December. This memoir is interesting to Americans, as it records the history of a most useful man, and one who, by his late will, has become a benefactor to our country in a pecuniary gift, intended to benefit it. The particulars of his life had long been a mystery to most till Mr. Durand gave the particulars.

It is to be regretted that so few remarks are made regarding the Charleston and New York nurseries, which he established for the purpose of raising trees to export to France. At Charleston, the other day, we made particular inquiries respecting the one there, and one old gentleman knew the site, and spoke of the name of Michaux as one familiar to him in youth. The garden was called *Jardin du Roi*, and was sold in 1792. He was the first botanist who visited the Western States (1793); with what untiring zeal and assiduity his laborious researches were prosecuted, his journals now in Philadelphia are the evidences. The story of the explorations of our early botanists is of great interest, and will become of even greater, as time progresses.

HOW PLANTS GROW.—On other pages will be found Dr. Gray's exposition of "How Plants Grow," to which we particularly invite attention, as the result of verified science, and as of great interest to all. To employ a simple illustration of this knowledge: a few years since, men were puzzled to know how it was that grafts do not produce the same fruit as the stock—why, for instance, the root of one pear-tree may supply juices of twenty or more kinds. The discoveries of modern vegetable physiology disclose the successive growths of cells, each upon its predecessor, and each successor taking the exact character, and elaborating with the aid of its leaves, each its own peculiar juices. The improvements in the microscope have aided these researches, and we now have access to one of the great secrets of nature which our ancestors knew nothing about. Dr. Gray's illustrations have reminded us of the following lines:—

"Instinct with life, the buried seed now shoots
On earth's cold bosom its descending roots;
With what elastic arms its rising stem
Parts the twin lobes, expands the throbbing gem.
Soon in bright veins the silvery sap ascends,
And reflux blood in milky eddies bends;
Till spread in air, the leaves respiring play,
And drink the golden quintessence of the day."

VITALITY OF SEEDS.—Long since, the British Association appointed an important committee on this subject. Dr. Daubeny read their report at the last meeting, held in Dublin, in September. They state that after planting year after year all the seeds they were able to collect, they had now left but four species of plants whose seeds continued to grow. These were seeds belonging to the species *Ulex*, *Dolichos*, *Malva*, and *Ipomea*. The results are curious and interesting. We now give them for the information of our readers, and for reference. The register of every experiment was exhibited with the details kept by Mr.

Baxter of the Botanic Garden. From this register it was seen that the shortest period for which any of the seeds had retained their vitality was eight years, and the longest forty-three years. Grouping the plants according to their natural orders, the following selected will give some idea of the plants whose seeds retain their vitality longest: Gramineæ, 8 years; Liliaceæ, 10 years; Coniferæ, 12 years; Tiliaceæ, 27 years; Malvaceæ, 27 years; Leguminosæ, 43 years; Rhamnaceæ, 21 years; Boraganiaceæ, 8 years; Convolvulaceæ, 14 years; Compositæ, 8 years; Myrtaceæ, 18 years; Umbelliferæ, 8 years; Cruciferæ, 8 years. It would appear that the seeds which retained their vitality longest were those which had least albumen surrounding their embryos, as the Leguminosæ; whilst those which had large quantities of albumen, as the Graminaceæ, lost their vitality soonest. Dr. Steele stated that he had planted many seeds obtained from Egyptian mummies, but always failed to obtain any indications of their vitality. Mr. Moore, of the Dublin Botanic Garden, related an instance in which he had succeeded in producing a new species of leguminous plant from seeds obtained by Mr. John Ball from a vase discovered in an Egyptian tomb. He also stated that he had picked from out of the wood of a decayed elm, at least fifty years old, seeds of laburnum, many of which had germinated when planted, and produced young trees. He had once grown a crop of young barberry trees by planting a quantity of barberry jam, which proved that the process of preparing the jam did not injure the seed. Many seeds grew the better for being placed in boiling water before they were set. Dr. Daubeny stated that seeds did not retain their vitality whilst entirely excluded from the air; that, in order to keep them well, they should be wrapped up in brown paper, or some other porous material. Mr. Archer stated that the seeds sent from China in air-tight vessels always failed to germinate. Some seeds kept much better than others. Mr. Ogilby stated that some seeds germinated the better for being kept. Mr. Nevins and Mr. Moore both confirmed this statement, and said that gardeners were in the habit of keeping cucumber and melon seeds in their pockets, in order to insure their more efficient germination.

THE NORTHWESTERN FRUIT GROWERS' ASSOCIATION held their semi-annual meeting in connection with the Alton Horticultural Society, late in September. By the kindness of the President (Mr. M. L. Dunlap), we have the following reports, which we are pleased to place on record. The exhibition of fruits was large and fine, though, in consequence of the fair at St. Louis, and several county fairs then in session, the attendance was not very large.

The Association was cautious in relation to recommending varieties for general cultivation, but the following will prove of interest to planters.

The Association is now merged in the Illinois State Horticultural Society.

FRUITS RECOMMENDED FOR GENERAL CULTIVATION BETWEEN THE 37TH AND 39TH PARALLELS OF LATITUDE.

Apples.—Early Harvest, Red June, Red Astrachan, Sweet Bough, Sweet June, Summer Rose, American Summer Pearmain, Ramsdell's Sweet, Golden Sweeting.

Fall Apples.—Fall Wine, Maiden's Blush, R. I. Greening, White Bellflower, Rambo, Hubbardston's Nonsuch, Buckingham, Peck's Pleasant, Prior's Red.

Winter Apples.—Red Canada, Willow Twig, Wine Sap, Raules Jenet, Newtown Pippin, Gilpin.

Crabs.—Yellow Siberian Crab.

Pears.—Doyenné d'Ete, Bartlett, St. Ghislain, White Doyenné, Fondante d'Automne, Dix, Napoleon, Beurré d'Anjou, Beurré Bosc, Beurré Brown, Henry 4th, Seckel, Stephen's Genesee, Fulton, Flemish Beauty, Urbaniste, Beurré Diel, Beurré Clairgeau, Duchess d'Angouleme, Winter Nelis, Columbia, Lawrence, Easter Beurré.

Cherries.—Gov. Wood, May Duke, Black Tartarian, Bigarreau Belle de Choisey, Early

Richmond, Belle Magnifique, Great Bigarreau, Gridley, Late Duke, Common Morello, Early May.

Plums.—Lombard, Diamond, Imperial Gage, Course's Nota Bene, Washington, Jefferson, Smith's Orleans, Lawrence, Bleeker's Gage, Reine Claude de Bavay, St. Catherine, Coe's Golden Drop, Semmiana, Damsen, for drying and preserving; Wild Plum of Central Illinois, presented by L. Shaw, and called by him Chickasaw.

This list was passed over informally, by general consent—

Peaches.—Serrate Early York, Large Early York, Bergen's Yellow, Early Crawford, Old Mixon Free, George 4th, Late Crawford, Late Admirable, Druid Hill, La Grange, Columbia, Smeck, Heath.

Nectarines.—Red Roman, Elruge.

Apricots.—Peach, Musch.

Currants.—Red Dutch, White Dutch.

Raspberries.—Orange, Red Antwerp, Ohio Everbearing.

Grapes.—Catawba.

Strawberries.—Longworth's Prolific, Hovey, McAvoy's Superior.

LIST OF APPLES RECOMMENDED FOR GENERAL CULTIVATION BETWEEN THE PARALLELS OF 39 AND 41 DEGREES, IN THEIR ORDER OF RIPENING.

Apples.—Yellow June, Early Harvest, Carolina June, Keswick's Codlin, Sweet June, Summer Rose, Dana, Summer Pearmain, Golden Sweeting, Hocking, Maiden's Blush, Fall Wine, Rambo, Jonathan, Autumnal Swaar, Buckingham, Downing's Paragon (new), Fameuse, Roman Stem, White Bellflower, Early Winter Sweet, Yellow Bellflower, Swaar, Fulton, Peck's Pleasant, Sweet Nonsuch, Raule's Janet, Wine Sap, White Winter Pearmain, Newtown Pippin, Willow Twig.

Cherries.—American Heart, Knight's Early Black, Black Heart, Elton, Yellow Spanish, White Tartarian, Ox Heart, Early May.

Plums.—Yellow Magnum Bonum, Lombard, Green Gage, German Prune, Chickasaw of L. Shaw, Blue Imperatrice.

LIST OF APPLES RECOMMENDED FOR GENERAL CULTIVATION BETWEEN LATITUDES 41° AND 52° 33', IN THE NORTHWEST.

Summer Apples.—Early Harvest, Red June, Sweet June, Early Pennock, Hocking, Keswick's Codlin.

Fall Apples.—Maiden's Blush, Fall Wine, Fameuse, Lowell, Sweet Nonsuch, Yellow Bellflower, Swaar, Wine Sap, White Winter Pearmain, Willow Twig, Talman Sweeting, Jonathan, Fulton, Ladies' Sweeting, Domine, Herefordshire Pearmain, White Pippin, Whitney's Russet, Ramsdell's Sweet, Bailey's Sweet, Minkler.

This last is an apple named by the Association, and recommended for general culture.

OHIO POMOLOGICAL SOCIETY.—We have no report of the meeting of an official kind, but this being promised as forthcoming, we prefer to wait its appearance to giving an imperfect account of the proceedings, which seem to have considerable interest, if we may judge by the newspaper paragraphs.

THE AGRICULTURAL FAIRS throughout the land seem to have excited very great attention, the past season, and to have elicited much valuable information; indeed, all our reports indicate that the people have had "a good time," with one or two exceptions.

HAMILTON (CANADA) HORTICULTURAL CLUB.—We have a report of the meeting of this Society (E. Kelly, President), but too late for insertion.

CULTURE OF THE PEAR.—The ensuing number will contain an able article on the Comparative Value of the Culture of the Pear and other Fruits, by L. B., of New Jersey, fairly written, and favorable to that delicious production. We shall then have given both sides of the question from valued correspondents, and thus leave our readers to form their own opinions from facts that may come under their own notice, no less than from the experience of good practitioners recorded in these pages.

CURCULIO.—A very sensible remedy for this pest is proposed in the *Ohio Valley Farmer*, by Mr. Walker, of Kentucky. As soon as the fruit is attacked, take a tin pan into which soap-suds has been placed to the depth of an inch or so; place it in the tree, and place a small glass globe lamp in the middle of the pan, which permit to burn all night. In darting towards the light, the curculios strike the glass, and are precipitated into the liquid, from which they are unable to extricate themselves.

THE OLD GARDENERS' BOOK.—This very ancient work (*Lawson's*, 1626) is nearly ready for publication, in black letter, and a *fac-simile* of the curious engravings. The annexed repre-



sentation of trimming, digging, and planting, will give some idea of the book, of which we shall have more to say in December. The work, which is a great literary curiosity, will be offered for sale, as well as a premium to those who forward subscribers to the *Horticulturist*.

GOSSIP.—The Havanese may be compared to the Chinese, in their love of smoking. Men, women, and children, live with pipes in their mouths. The laborer smokes in the field, the clerk at his desk, the traveller on horseback. "If," says M. Huc, "a person wakes in the night, he lights his pipe." The most certain sign that a sick man is about to expire is, that he ceases to inhale the fumes of tobacco. Upon this he expends his latest breath; and the native Christians who came to summon M. Huc to administer the sacraments to the dying, always said, in proof of the desperateness of the case: "He no longer smokes."

—On volcanic rocks, bare earth, naked walls, or in pure sand, plants are found to vegetate. On the bare spots above enumerated, is deposited the vegetable mould of leaves, &c.,

and thus gradually a soil is made rich in organized matter, constantly increased in their decay; their successors live more healthfully upon the inheritance, being supported partly upon what they industriously take from the air, and partly upon the ancestral accumulation of vegetable mould. In this way, each successive generation may enrich the soil; and when it dies, it bequeaths to the soil not only all it took from it, but all that it drew from the air. It is in this manner, especially, that the humble lichens, mosses, ferns, and other plants, which short-sighted man terms useless, play an essential part in the economy of nature. They *can* live directly on the air. Their minute seeds, quite invisible to the naked eye, and, in number, far surpassing man's power of computation—light almost as the air itself—are widely scattered by the winds over mountain and plain, and lodged upon every naked rock, or stagnant pool, or tract of barren sand, where all they need is moisture, to excite and maintain their growth. Some, like the lichens, require even little of this. They attach themselves to dry rocks or plains of lava, which are washed only by the occasional shower, and here they make the earliest inroads upon barrenness. Not only do the accumulated remains fill the crevices with fertile mould, and the water, which it holds like a sponge, by its freezing and thawing, aids in the disintegration of the rock, but many of them create, from aerial elements, *oxalic acid*—a powerful solvent—which, as it is gradually set free, acts upon and excavates the stony surface to which the plant firmly adheres. Thus the dying lichen digs for itself in the solid rock a sepulchre in which its dust may rest. Well did Linnæus, in his lively fancy, term the lichens *vernaculi*, or *bond slaves*, chained, as it were, to the rocks which they labor to cover with soil for the benefit of others, though they derive from it no nourishment for themselves.—A very curious passage in natural history might be written by any one who would group together what may be called fish paradoxes. Thus there are fish that fly; fish that climb; fish that hop like frogs, using their fins as veritable legs; fish that ruminate (the carp); fish that discharge electricity in sufficient intensity to decompose water; fish that migrate; fish that make nests; fish that incubate; and fish that bring forth their young alive.—Hugh Miller says: "As another family of plants, the Rosaceæ was created in order that the gardens which it would be one of man's vocations to keep and to dress, should have their trees 'good for food, and pleasant to the taste;' so flowers, in general, were profusely produced just ere he appeared, to minister to that sense of beauty which distinguishes him from all the lower creatures, and to which he owes not a few of his most exquisite enjoyments. The poet accepted the bee as a sign of high significance: the geologist also accepts her as a sign. Her entombed remains testify to the gradual fitting-up of our earth as a place of habitation for a creature destined to seek delight for the mind and the eye as certainly as for the grosser senses, and in especial, marks the introduction of the stately forest-trees, and the arrival of delicious flowers."—The same author illustrates the wonders revealed by geology by the bones of the *Dinornis giganteus*, exhibited by Dr. Mantell, in 1850, which greatly exceeded in bulk those of the largest horse. A large thigh-bone, it was held, must have belonged to a bird that stood from eleven to twelve feet high, the extreme height of the African elephant.—"If," says the President of the British Association, in his late speech, "as is indicated by the small density of the sun, and by other circumstances, that body has not yet reached the condition of incompressibility, we have, in the future approximation of its parts, a fund of heat quite large enough to supply the wants of the human family to the end of its sojourn here. It has been calculated that an amount of condensation which would diminish the diameter of the sun by only the ten-thousandth part, would suffice to restore the heat emitted in 2,000 years."—Jewellers' gold is now alloyed (adulterated) with zinc instead of silver, and presents a fair appearance; but a galvanic action is produced upon gold so alloyed, by means of which the metal is split into separate pieces, and the articles rendered perfectly useless. Gold chains, pencil-cases, thimbles, and lockets, are the articles of which

the public will do well to take heed, as these have, among some other things, been lately so constructed in vast numbers. Ladies should know that what they wear as gold is far otherwise.—A few tablespoonfuls of brown sugar will preserve fresh fish for some days, so as to be as good, when boiled, as if just caught. If dried, and kept free from mouldiness, there seems to be no limit to their preservation, and they are much more nutritious in this way than when salted. If salt be desired, a teaspoonful or two may be added. Saltpetre may be used instead of salt, if it be wished to make the fish hard. Efforts should be made to furnish our cities with fish at less cost than is now done; they bring twice their value, for instance, in our Philadelphia markets, which are brought by railroad within two hours of the sea.—The best remedy for the nuisance of mice in a house, is to starve them. What food is carelessly left on the floors, &c., constitutes the food of mice. Remove every particle of food from floors and tables every evening, and burn it, and place all food fit for use in safes of some kind which they cannot enter, and the propagation of these troublesome little animals would nearly cease in large towns, or confine them to drains and sewers.—The lotus leaf turns water off its upper surface in a pool like quicksilver. The cause has been ascertained to be that it is covered with short, microscopic papillæ, which entangle the air, and establish an air-plate over the whole surface, with which, in reality, the water never comes into contact at all. The same phenomenon is believed to be exhibited by water-fowl, and that this is not due to the presence of grease or oil. The suggestion may be turned to account by practical men, perhaps, viz: Might not the manufacturers of water-proof cloth manage to produce a surface such as would entangle and retain a film of air while it permitted transmission of air through it?—Somebody told Jerrold that a celebrated auctioneer was dead, and, of course, his business would go to the devil. "Oh, then, he'll get it again," said the wit. "Well, my dear Jerrold," said a tedious old gentleman, "what is going on?" "I am," quoth the questioned, and immediately shot off along the pavement.—The most magnificent specimen of Chinese Wistaria in Europe, is trained upon the walls of the London Horticultural Society, where it occupies a space three hundred and seventy-five feet in length. This plant may be forced to advantage, and is by no means to be despised as a greenhouse climber. Its recommendations are, great freedom in the production of its flowers, great beauty, and fragrance. Pruned, it may be brought into a dwarf condition, and grows well in ordinary garden earth.—It is now evident, that whatever the home of the cotton plant, primarily, it is most valuable near the northern or cold limit of its actual cultivation, from the climatological advantages there presented. As to forced Indian cultivation of cotton, there is little to be expected; the American adaptation was apparently a spontaneous result, and not the triumph of a conflict with climatological difficulties, and it appears to be wholly impossible to transplant its peculiar success. About 400,000 bales of inferior cotton, is all that has ever been received from India, in one year, after efforts spread over many years and various temperatures; its tropical climate not only injures the annual varieties, but also soon changes them to perennials.—The sub-tropical tree-forms begin to be abundant in Ohio, and, southward, they increase in number rapidly, till they become exclusively tropical in the oranges, palms, live oaks, and mangroves of the lower half of the Florida peninsula. The papaw, cypress, and gum-trees, commence in the Ohio Valley, while long-leaved pines, cypress, and live oak, appear on the Atlantic coast, at Norfolk; evergreen magnolias, palmettoes, and the wild olive, follow before reaching Savannah, and the border of the Gulf affords many constant forms equally marked as tropical. The forest of the coast at Charleston is rich with tropical forms, red and white bays, giant laurels, cabbage palms, live oaks, &c. At St. Augustine, the wild orange is added, and, in the southern part of the peninsula, satin-wood, mahogany, mangroves, the cocoa-nut, and a variety of truly tropical palms.

A FINE PORTRAIT OF F. A. MICHAUX, engraved on steel, will ornament our December number, and form an admirable frontispiece to the year's volume.

A PORTRAIT OF DR. BRINCKLE, extremely well executed in photograph, has been laid on our table. Long may the able pomologist live to benefit his race.

INDIAN SUMMER.—De Quincey, in the new edition of the *Confessions of an English Opium Eater*, has described the advent of Indian summer, in the following passage, more beautifully than any master of the English language :—

"It was a day belonging to a brief and pathetic season of farewell summer resurrection, which, under one name or other, is known almost everywhere. It is that last brief resurrection of summer in its most brilliant memorials—a resurrection that has no root in the past, nor steady hold upon the future, like the lambent and fitful gleams from an expiring lamp, mimicking what is called the 'lightning before death' in sick patients, when close upon their end. There is a feeling of the conflict that has been going on between the lingering powers of summer and the strengthening powers of winter, not unlike that which moves by antagonist forces in some deadly inflammation, hurrying forwards, through fierce struggles, into the final repose of mortification. For a time, the equilibrium has been maintained between the hostile forces; but at last, the antagonism is overthrown; the victory is accomplished for the powers that fight on the side of death. Simultaneously with the conflict, the pain of conflict has departed; and thenceforward, the gentle process of collapsing life, no longer fretted by counter-movements, slips away with holy peace into the noiseless deeps of the Infinite. So sweet, so ghostly, in its soft, golden smiles, silent as a dream, and quiet as the dying trance of a saint, faded through all its transient stages this departing day."

ONTARIO PEAR.—We are much pleased with the appearance and qualities of the Ontario Pear, from the nurseries of W. T. & E. Smith, Geneva, N. Y. They first introduced it at the American Pomological Society of Rochester, in 1856, where it was highly approved. Size, medium. Color, a beautiful pale lemon. Of very rich, buttery, sweet, and excellent flavor. Ripens, end of September and early in October. Undoubtedly, a good market variety, which we advise planters at once to procure. There has not been, as far as we can ascertain, a bushel of as good-looking pears in the Philadelphia market, the present season.

GAPES IN CHICKENS are said to be cured by the use of salt. The disease is a worm in the throat of the bird; if lumps of salt are left in their way, or a little box of common salt in a convenient place, the chickens will take enough of it to prevent or cure the malady. When they are very sick, and gaping piteously, the best thing to do is to spirt a little salt and water into their throats. Some use an aromatic decoction of cinnamon, pepper, &c., a drop or two of which is put into the bird's throat with excellent effect; but salt is the great vermifuge of creation. Instinct seems intended to act as a safeguard against those parasites, which, if let alone, would soon be as fatal to our own peace and comfort as those of old Timon, of Athens, were to his.

THE SEWING MACHINE of Grover & Baker, advertised in the accompanying sheet, is spoken of by those in whom we have confidence, as doing everything it promises, and we therefore refer housekeepers, &c., to it.

WHAT IS EXHIBITED AND REPORTED.—We think every one who reads the following paragraph in a New York daily paper, respecting the horticultural exhibition in that city, must have

been at least amused that the reporter should find so little else of interest to himself as to be obliged to say:—

"Among the audience, we noticed the Rev. Drs. Chapin and Osgood; also, Rev. Mr. Roach, of the Allen Street Methodist Episcopal Church, who has lately settled in this city, and has the reputation, among the members of that church, of being as polished an orator as the other two distinguished divines."

We congratulate the Rev. Mr. Roach upon his reputation, but the bathos is nevertheless peculiarly racy, equalling anything on record in horticultural reports.

PEARS.—We are indebted to Mr. Carpenter (nurseryman at New Rochelle, N. Y.) for a box of Church and Huntingdon Pears. The first is the best, and a valuable fruit; it is firm and buttery, and may be safely recommended. It is small this year, and we are assured that, in good seasons, it is double the present size. The Huntingdon has a more peculiar flavor, but is second to the Church, which, with the Ontario, are now fairly introduced. The Parsonage Pear we do not esteem as highly as the others.

PLANTS FOR HANGING BASKETS, AND STOVE CLIMBERS, ETC.—A correspondent says that the Messrs. Henderson, near London, grow extensively the following plants, in hanging baskets: "Hanging baskets were first introduced here, I believe, and now they find it a regular branch of business. All the *Æschynanthus* they grow that way now; also *Thyrsacanthus rutilans*, *Hoya bella*, *Cactus*, or *Epiphyllum truncatum Russellianum*, and the crosses from them; *Russellia juncea*, which blooms in these baskets or basket-like pans, with holes in the sides and bottom, better than in pots. *Campanula garganica*, they force in the stove, in these baskets, where it rambles like a climber; and when it comes into bloom, it is removed to a cool house, where you would hardly know it; and so with numerous kinds down to Aaron's Beard, the *Saxifraga sarmentosa*.

"The best six stove plants for hanging baskets (their own selection), are *Æschynanthus splendens*, *Hoya bella*, *Impatiens repens*, *Isolepis gracilis* (also in the greenhouse, and out of doors in summer), *Margravia dubia* (with uncommonly fine foliage), and *Torenia Asiatica*.

"The best twelve stove climbers: *Allamanda Aubletii* (yellow); *Clerodendrum splendens* and *speciosissimum* (two or three kinds of *splendens* are not worth growing); *Combretum purpureum*; *Dipladenia acuminata*, *crassinoda*, and *splendens*; *Hexacentris Mysorensis*, *Hoya imperialis*, *Ipomæa Horsfalliæ*, *Passiflora princeps*, or *racemosa*, *P. Decaisnea*, and *Stephanotis floribunda*."

The writer continues: "The newest thing in this nursery is from an original idea—a rare thing in gardening—a thirty-paned propagating house, forty feet by thirty-five feet, which will be in three divisions, the tanks for bottom heat being the novelty. They are to be eighteen inches deep, with two flow and one return-pipe in each, and will be heated with Thomson's new retort boiler. The new idea for bottom heat is an improvement on all other modes of hot-water bottom heating. It is this: After the three pipes are proved in each tank, that tank is to be filled on the principle of the filter, first with big stones in the bottom, or say as large as ducks' eggs, then another layer of stones not so big; after that, a layer of very rough gravel, and another layer of gravel not so rough, and so on till the top is of the finest sand; then a foot of water is let in, and the pipes will heat the mass to 80°, more or less; and, when once that heat is got, a few hours' firing, daily, will keep it up, and a constant moist bottom heat is as certain as from a dung bed. Three inches of clean sand will keep down the vapor, and be the best way of bottom heating and plunging, and, in the autumn, the water will be withdrawn by turning a cock; and then a dry bottom heat is secured for the winter, the mass of stones and gravel retaining the heat for days and days at little cost. This is a vast improvement on the old way of throwing in steam among

stones for bottom or for more permanent heat, as was practised just at the time when the hot-water system was introduced."

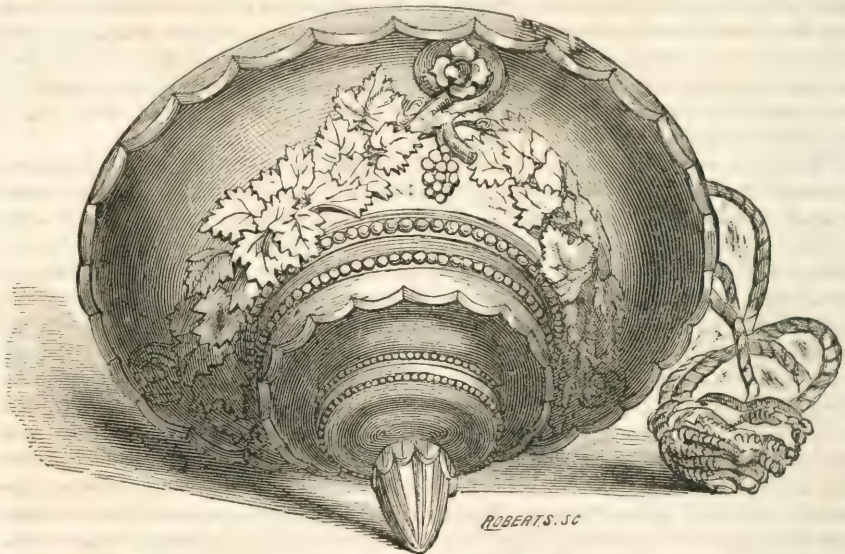
Of new plants found at Henderson's, he says: "*Jasminum dianthifolium*, with a slender habit and sweet, starry, white flowers, was quite new to me as a stove plant, which everybody buys for its manageable size and most deliciously sweet blossoms. *Dipladenia urophylla* and *Allamanda Aubletii* are spoken of as very superior; *Ardisia hymenandra* and *Æschynanthus splendens*, the same; *Ixora floribunda*, a close grower, with rosy flowers, ditto; *Rogeria thyrsiflora*, much after *Ixora*, the same; *Tecoma spectabilis*, *Meyenia erecta*, and the magnificent *Medinilla*, with *Maranta Warscewiczii*, the *Hexacentris*, *Gesnera Doncklarii*, *Dipladenia acuminata*, *Nepenthes phyllamphora*, the two *Sonerila margaritacea*, and *Impatiens Jerdoniæ*, are all of the first water."

Another authority has the following interesting list:—

"Plants for rockwork, all with variegated leaves: *Ajuga reptans*, *Aira cærulea* (*Molinia cærulea*), *Carex*, *Dactylis glomerata*, *Festuca glauca*, *Galeobdolon luteum*, *Glechoma hederacea*, *Linaria Cymbalaria*, *Saxifraga umbrosa*, *Tussilago Farfara*, *Vinca major elegantissima*, *V. major reticulata*, *V. minor aurea*, *V. minor argentea*.

Plants for pot culture: *Ægopodium Podagraria*, with variegated leaves, free growing, and handsome; variegated *Ageratum coelestinum*, *Arabis lucida*, with very fine bright golden

Fig. 1.

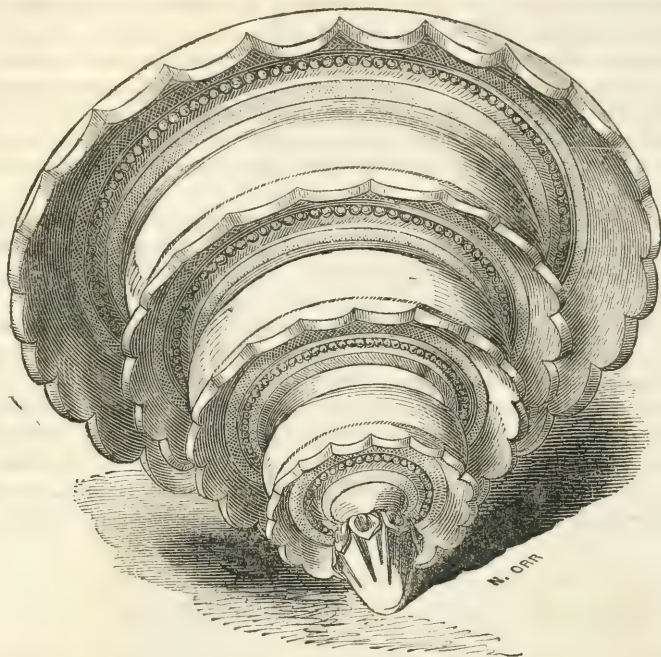


HANGING VASE.

variegation; *Arundo Donax versicolor*, one of the very best variegated plants; *Artemisia vulgaris*, handsome in a pot; *Arum maculatum*, with veined leaves; *Aspidistra lurida variegata*, generally shown as a stove plant, but quite hardy and very fine for specimen plants; *Centaurea candidissima*, with ornamental silvery leaves, makes a first-rate specimen plant; *Cineraria maritima*: this, like the preceding, is covered with down, which looks like frosted silver, an elegant plant for rooms at night; *Convallaria majalis*: this is even finer as a pot plant than in the border; *Dactylis glomerata* fol. var., a handsome Grass;

Festuca glauca, tinged with blue; *Funkia albo-marginata*, has a narrow white edge; *F. ovata*, bordered with white; *F. undulata*, with a broad white belt in the middle—all three

Fig. 2.



HANGING VASE.

make handsome pot plants: *Melissa secunda*, has leaves mottled with white, dwarf habit, and a profusion of pretty rosy flowers; *Mentha rotundifolia*, with white border; *M. sylvestris*, pretty, frequently three colored; *Polemonium cæruleum*, a beautiful plant for pot culture; *Pulmonaria sibirica*, with very distinctly spotted leaves; *Spiræa ulmaria variegata*, *Tussilago Farfara*, very beautiful as a specimen plant

Plants for baskets or hanging vases: *Glechoma hederacea*, exceedingly pretty for this purpose; *Linaria cymbalaria*, a diminutive plant, but remarkably pretty; *Vinca major elegantissima*, one of the finest variegated plants in cultivation; *V. major reticulata*, exceedingly elegant, the leaves looking like network; *V. minor aurea* and *V. minor argentea*.

Of many of these plants pretty specimens were shown by Mr. Salter at Regent's Park, where they were much admired. We may add that the beautiful Chinese *Farfugium grande* when it shall have become more common will doubtless be a great favorite both for pot culture and for rockwork."

The subject has taken strong hold of our American spirit of adorning home, and we are glad to lend our aid to so good a cause.

DELAWARE GRAPE.—We are indebted to George W. Campbell, Esq., of Delaware, Ohio, for samples of the Delaware Grape, which equals the description in Downing's new edition, where much of interest will be found regarding the new varieties. The Delaware is a great

acquisition. The Diana is now ripe in our garden, and comes next in our estimation to the Rebecca and Delaware. The Concord is much esteemed in the Northern and Eastern States, because it ripens early, but we do not find it equal to the Catawba in any respect.

REBECCA GRAPE.—After the above was written, Mr. Brooksbank, of Hudson, forwarded a box of the Rebecca Grape; good as the Delaware is, the Rebecca is very superior, and we are free to say it is, in our opinion, the best out-of-door grape we have. A good crop of it will take the place *almost* of the hothouse productions. We inserted the word "almost" after the foregoing, in consequence of having, from a valued friend, *such* specimens of Black Hamburg and Muscats as made us waver a little. But in these times, when coal and labor are expensive, the Rebecca is a *capital* substitute, and the Delaware also. From this time forward, we give up the Catawba for a table grape, and graft on the vines these two.

THE WINE CROP IN ILLINOIS.—Grape culture is becoming quite a business in Monroe County, Illinois. It is estimated that the citizens of that county will market 150,000 gallons of wines, which, at present rates will amount to \$200,000.

ANSWERS TO CORRESPONDENTS.—A. D. W. is informed that the *Philadelphia Pear* does not equal the expectations formed regarding it. We have specimens, this season, from the original tree in Roxborough, Pa., and find it quite inferior—we should say, valueless. The *German-town Strawberry* is a most valuable variety, originated here by Mr. George Young; and Mr. Downing gives it a high character. There has been a great demand for plants, Mr. Young informs us, and he will be prepared in the spring to fill a large number of orders.

The *Des Nonnes Pears*, from Thorp, Smith, and Hanchett, of Syracuse, are "very good." Whether they are identical with *Beurré de Brignais*, we are not able at this moment to decide.

(H. B. WEISER, York, Pa.) The grapes sent are very fine Isabellas.

(A. A. HULL, Maryland.) Your questions are not definitely put.

CATALOGUES, ETC., RECEIVED.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, and Bedding-out Plants, cultivated and for sale by W. T. & E. Smith, Geneva, N. Y., 1857.

Catalogue des Onions, de Fleurs, et Fraisiers qui se trouvent chez Vilmorin-Andrieux et Cie. Paris, 1857.

Catalogue des Graines, de Fleurs, ditto, do.

The Lawton, or New Rochelle Blackberry, its Origin, History, Characteristics, and Culture. New York: Drew & French, 85 Broadway, N. Y.

Illustrated Annual Register of Rural Affairs for 1858. No. 4. Albany: Luther Tucker & Son. A very good manual for housekeepers in the country, and illustrated, the title enumerating "one hundred and thirty engravings."

Catalogue of Fruit and Ornamental Trees, cultivated and for sale at Schenectady, N. Y., by C. Reagles & Son. 25th edition. Rich in fruit.

Descriptive Catalogue of Fruit and Ornamental Trees and Greenhouse Plants, for sale by Thorp, Smith & Hanchett, Syracuse, N. Y. This is one of the best catalogues we have ever examined; the firm from which it comes takes its place among the first cultivators of the country. We should say, from a perusal of the catalogue, that it was reliable.

Catalogue of Fruit and Ornamental Trees and Plants, cultivated and for sale at the Lebanon Nurseries, Pittsburg, Pa., by Blackstone and Ammon. We are glad to see so good a list from our own State.

Catalogue abridged of M. Kelly and Co.'s Trees and Plants, Cincinnati, Ohio.



DELAWARE GRAPE.

Robert Buist's Catalogue of Select Fruits, Philadelphia. A great and valuable list.

Catalogue of Fruit and Ornamental Trees, &c., cultivated at the Fruitland Nurseries, Augusta, Ga., by Dr. Redmond. An excellent selection.

A Descriptive Catalogue of Fruit and Ornamental Trees, Deciduous and Evergreen Trees and Shrubs, Roses, &c., cultivated and for sale at Forest Nursery, near Elkton, Todd County, Ky., by J. S. Downer & Son. If we are to judge by this catalogue, Kentucky possesses almost everything we have on the Atlantic coast.

Supplement to the Descriptive Catalogue of André Leroy's Nurseries, Angers, France, 1857.

Descriptive Catalogue of Fruit and Ornamental Trees, &c., for sale by Edwin Allen, at the New Brunswick Nurseries, N. J., for 1857-8.

Descriptive Catalogue of Select Fruit-Trees, &c. &c., for sale by Thomas & Herendeen (late J. J. Thomas), Macedon, Wayne County, N. Y.

Etablissement de Horticulture de Pele, Rue de Lourcine, Paris. Choix de Plantes nouvelle ou rare, 1857.

Calendar of Operations.

NOVEMBER.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

THE crop is gathered, and the vintage over, usually by the middle of October. Some cultivators hoe their vineyards in autumn, after the vintage, in preference to the spring, but the latter season is preferred by the majority for ploughing or hoeing. Late in November, when the leaves are all off, and the wood fully matured, the vines may be pruned, if cuttings are wanted for fall planting—a favorite season for setting out cuttings with many nurserymen.

TREATMENT OF THE WINE.—The fermentation will be over in about two weeks after the juice is put in the casks; then fill them up full, and drive the bungs in moderately tight. In two months (sometimes earlier), the wine will be clear, and pleasant to drink; but it should never be bottled until after the *second* fermentation, which takes place in May. In January, the wine is drawn off, and put into another cask, and the lees sent to the distillers with the pomace, to make brandy, or thrown on the manure pile. Some persons put the wine back into the same cask in which it was fermented, under the belief that it keeps better than in another.

BY WILLIAM SAUNDERS.

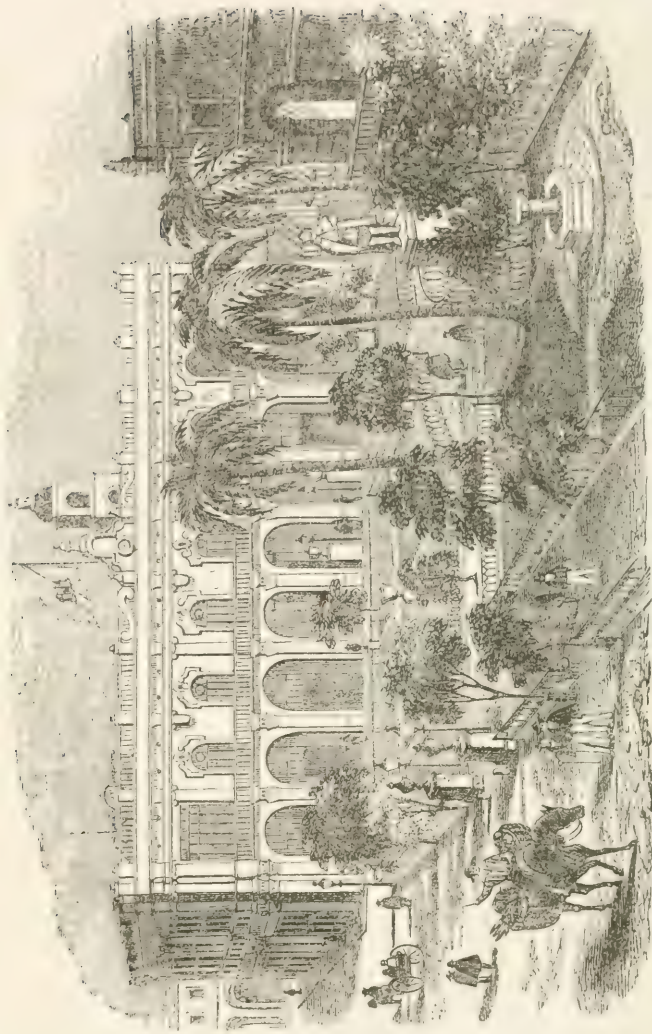
VEGETABLE GARDEN.—There is every reason to suppose that the potato disease which has been prevalent in many sections of the country, has been induced by the continued wet state of the soil during the early summer months. Dry weather completely checked its progress, and on dry, elevated soils it was scarcely seen. On drained lands, the disease was also comparatively unknown. Were anything wanting to establish the value of draining as the foundation of all improvement in cultivation, it has been furnished us this season. It is certainly the most economical. Draining tiles are comparatively cheap; an inch and a half or two-inch pipe is of ample capacity, except for mains. Depth is of great importance. Even in tenacious soils, the drains should be three and a half or four feet deep. At this depth, their influence extends over a greater space; consequently, fewer drains are necessary than when they are placed nearer the surface. Those who have not had experience in this matter, have but a faint idea of the increased value it confers on the soil. Perhaps the best argument in favor of draining, is the fact that those who have experimented on a small scale are profiting by experience, and extending their operations. Agricultural chemists have much to answer for in their almost total neglect of enforcing the improvement of the mechanical condition of the soil; they have dwelt too exclusively upon its chemical constituents; indeed, the physical condition of the soil is seldom connected with

the analysis of the chemist. In a former volume (1849), I took occasion to allude to this subject; more recently, we find an increased attention given it by scientific writers. So much depends upon the decomposing power of the atmosphere, that its presence or absence in a soil will materially effect its productiveness. The soil should be considered as a laboratory, in which, by the aid of air and moisture, chemical changes are constantly occurring, preparing the various kinds of plant food for admission to roots. But let the atmospheric influences be excluded, and this process is stopped; the most valuable ingredients, although present, may now remain unavailable and useless to vegetation, because not in a condition fitted for absorption. It has been proved that soils which, on analysis, have shown a sufficiency of ingredients for a crop, have proved unproductive, because these matters have not been present in an available form. Draining removes the surplus water, and allows the unimpeded access of the various gases upon which vegetable life wholly depends.

FRUIT.—The cultivation of the pear-tree grafted on quince roots, is now being a subject of discussion among fruit growers; we should be sorry to see this system of dwarf culture fall into unmerited disrepute. It is a fact beyond dispute, that where a judicious selection of sorts that are adapted to this system has been made, and proper care given in culture, there has been no want of success. It is only by experiment that we can ascertain the kinds adapted to special systems of culture; and in making these experiments, failures must be expected. The list of pears that have been found to succeed on the quince stock, is sufficiently extensive for ordinary purposes of utility, and the list is yearly increasing. The *Duchess d'Angouleme*, *Beurré Giffard*, *Glout Moreau*, *Louise Bonne de Jersey*, *Vicar of Winkfield*, and *Easter Beurré*, will form a reliable collection; but no collection can be reliable unless properly cultivated. Let the ground be loose, deep, and mellow, and not saturated with manure. Plant so as to cover the quince root, whatever others may say. Mulch, both summer and winter. Prune understandingly, and success will be certain. But do not attempt to improve upon the practice of successful growers until you first learn to equal it, nor spend money on special manures, or any other *extraordinary* expedients, until you are successful under *ordinary* cultivation.

GREENHOUSE.—Before severe frosty weather prevents out-door operations in the ground, it will be useful to secure a quantity of soil for repotting during winter. Select a quantity of surfy sods from old meadows or pasture grounds, and pile them up under cover. All greenhouse plants will grow well in this. In former years, when vague ideas were held in regard to the relations between the soil and its vegetable products, mysterious virtues were ascribed to certain complicated mixtures of manures and composts. These mixtures are not at present held in such estimation; the intelligent florist looks upon soil as a medium for conveying nourishment, where the roots have presented to them the various gases from which they derive their principal food. To be available for the use of vegetation, soils should not only possess all the ingredients of fertility, in a chemical sense, but its physical condition (its relation to air and water) should also be of a nature to allow a free admission of air to all its parts, and be favorable to the extension and ramification of roots. Fibry soil, such as is derived from decomposed sods, presents all these conditions in an eminent degree. The vegetable matter in which they abound insures porosity, and, as it gradually decays, a constant supply of food is liberated in the immediate vicinity of the roots. The principal care required in the general management at this time, is to guard against excitement. Air may be given freely, and watering must be cautiously conducted. Discriminate between those plants that have completed their growth, and now require a season of rest, and those that are still growing or coming into flower. The latter will require a more constant supply of water than the former. There is no operation in the management of plants in pots that demands more judgment than supplying them judiciously with water; and so varied are their requirements of this element, that no definite rules can be given to be universally applicable.

PLANTING.—In sheltered situations, trees may yet be planted; do not, however, plant in a hurry, but let the ground be thoroughly prepared, and in good condition. It is a commendable practice to prepare the holes now, throwing out the soil, and leaving it exposed, to be acted upon by frosts; by that means, it will acquire a friability not otherwise easily obtained. If you find it more convenient to get your trees now than in the spring, or if your orders have to come from a more northern locality than your own, by all means secure them at once; and, when they arrive, have a deep trench prepared, and lay them in closely, covering them well, at least one-half up their stems; they will then be ready to plant at the earliest fitting moment in spring—a matter of great importance. This is also the best season for transportation. In the hurry of spring work, trees are frequently exposed to parching winds, which are not so prevalent during the present month.



PLAZA DE ARMAS, AND GOVERNOR'S RESIDENCE.

A Trip to Cuba and the Southern States, No. 7.

A pleasing land of drowsy-head it was,
Of dreams that wave before the half shut eye ;
And of gay castles in the clouds that pass,
For ever flashing round a summer sky.

Castle of Indolence.



THE despotism exercised in this island, cannot enter fully into the conception of a free citizen of the United States. The only recompense ever received, has been the title of "ever-faithful," bestowed by the sycophants of royalty. The army of twenty thousand foreign troops quartered here, to prevent insurrection, is an incubus upon the native inhabitants which they feel most sensibly. But in addition to this enormous expense, millions upon millions of revenue are collected and sent to Old Spain, to satisfy the rapacity of queens and courtiers. Every barrel of flour not smuggled pays an entry duty of ten dollars, if it does not come from Spain; the quality of the latter is so inferior as not to be relished by the better classes, while the duty on it also prevents its use among the common people. The favor or the enmity of a Governor-General (who is almost an irresponsible king), makes or ruins the fortunes of families; he may imprison, hang, or expatriate, all whom he says he even suspects. Mr. Ballou, in his interesting *History of Cuba* (published lately in Boston), says:—

"Cuba is permitted no voice in the Cortes; the press is under the vilest censorship; farmers are compelled to pay ten per cent. on all their harvest except sugar, and on that article two and a half per cent. The island has been under martial law since 1825; over \$23,000,000 of taxes are levied upon the inhabitants, to be squandered by Spain. Ice is monopolized by the government; flour is so taxed as to be inadmissible; a Creole must purchase a license before he can invite a few friends to take a cup of tea at his board; there is a stamped paper, made legally necessary for special purposes of contract, costing eight dollars per sheet; no goods, either in or out of doors, can be sold without a license; the natives of the island are excluded entirely from the army, the judiciary, the treasury, and the customs; the military government assumes the charge of the schools; the grazing of cattle is taxed exorbitantly; newspapers from abroad, with few exceptions, are contraband; letters passing through the post are opened, and purged of their contents before delivery; fishing on the coast is forbidden, being a government monopoly; planters are forbidden to send their sons to the United States for educational purposes; the slave-trade is secretly encouraged by government; no person can remove from one house to another without first paying for a government permit; all cattle (the same as goods) that are sold must pay six per cent. of their value to government; in short, every possible subterfuge is resorted to by the government officials to swindle the people,* everything being taxed; and there is no appeal from the decision of the Captain-General!"

He continues further on, thus:—

"If it were possible to contemplate only the beauties that nature has so prodigally lavished on this Eden of the Gulf, shutting out all that man has done and is still doing to mar the blessings of Heaven, then a visit to or residence in Cuba would present a succession of unalloyed pleasures equal to a poet's dream. But it is impossible, even if it would be desirable, to exclude the dark side of the picture. The American traveller, particularly, keenly alive to the social and political aspects of life, appreciates in full force the evils that challenge his observation at every step, and in every view which he may take. If he contrast the natural scenery with the familiar pictures of home, he cannot help also contrasting the

* "No such extent of taxation as is now enforced in Cuba, was ever known or heard of before in any part of the world; and no community relying solely on the products of its own labor, could possibly exist under it."—*Alexander H. Everett.*

political condition of the people with that of his own country. The existence, almost under the shadow of the flag of the freest institutions the earth ever knew, of a government as purely despotic as that of the autocrat of all the Russias, is a monstrous fact that startles the most indifferent observer. It must be seen to be realized. To go hence to Cuba, is not merely passing over a few degrees of latitude in a few days' sail! It is a step from the nineteenth century back into the dark ages. In the clime of sun and endless summer, we are in the land of starless political darkness. Lying under the lee of a land where every man is a sovereign, is a realm where the lives, liberties, and fortunes of all are held at the tenure of the will of a single individual, and whence not a single murmur of complaint can reach the ear of the nominal ruler more than a thousand leagues away in another hemisphere. In close proximity to a country where the taxes, self-imposed, are so light as to be almost unfelt, is one where each free family pays nearly four hundred dollars per annum for the support of a system of bigoted tyranny, yielding in the aggregate an annual revenue of twenty-five millions of dollars, for which they receive no equivalent—no representation, no utterance, for pen and tongue are alike proscribed—no honor, no office, no emolument; while their industry is crippled, their intercourse with other nations hampered in every way, their bread literally snatched from their lips, the freedom of education denied, and every generous, liberal aspiration of the human soul stifled in its birth. And this in the nineteenth century, and in North America!

"Such are the contrasts, broad and striking, and such the reflections forced upon the mind of the citizen of the United States in Cuba. Do they never occur to the minds of the Creoles? We are told that they are willing slaves. Spain tells us so, and she extols to the world, with complacent mendacity, the loyalty of her '*siempre fielissima isla de Cuba*.' But why does she have a soldier under arms for every four white adults? We were about to say, white male citizens, but there are no citizens in Cuba. A proportionate military force in this country, would give us a standing army of more than a million bayonets, with an annual expenditure, reckoning each soldier to cost only two hundred dollars per annum, of more than two hundred millions of dollars. And this is the peace establishment of Spain in Cuba—for England, and France, and the United States, are all her allies, and she has no longer to fear the roving buccaneers of the Gulf who once made her tremble in her island fastness. For whom, then, is this enormous warlike preparation? Certainly for no external enemy—there is none. The question answers itself. It is for her very loyal subjects—the people of Cuba—that the Queen of Spain makes all this warlike show."

The means of education are limited in Cuba. There is a Royal University, a medical and law school, and chairs on all the natural sciences; the Jesuits have a college of some pretensions, but everybody seems to feel that the policy of the government is opposed to real knowledge. There is a museum of natural history, only kept up by a few master spirits; the "Jarden" of Acclimation, founded under the auspices of De la Sagra, is now unfenced, and utterly given up to the pasturage of the cows.

It may be as well to warn those who take letters of introduction to banking merchants, not to expect the slightest attempt at hospitality. As it has been said before, a Spaniard's idea of this virtue is to dine with every one who asks him; your banker will receive the strongest recommendations from his correspondent with averted eyes, and hand you over to a clerk, whose only idea respecting you is, that you are entitled to draw so many doubloons. The customs are so different in many respects, that you *enjoy* to the full the feeling of being in a foreign land.

It strikes me very oddly that the rear basement of the palace is let out to shopkeepers; you may buy cigars under Madame Concha's drawing-room, or have your harness or shoes mended on your way up to an official's office. It is altogether a country of contradictions. The garden or square in front, is the resort of everybody in the evenings, and it is here the military bands discourse excellent music.

In connection with the palace, we may as well give the form of the invitations to the Governor-General's receptions, which are held every Wednesday evening, when that does not come upon a great saint's day, or the ever-recurring drawing

of the lottery. Our invite is enveloped in a large square form, and reads thus:—

El Gobernador Capitan-General h la Marquesa de la Habana recibrán los Miércoles.

HABANA, 14 (month illegible), 1857.

a las 8½.*

Signor, Don, &c. &c.

We must say it is a novelty once in one's life to be called a Don, and that the supreme ruler's evening receptions are amazingly stupid, unless you speak Spanish. The Governor-General puts on his best smile, Madame Concha ditto (and a most amiable lady she is, and fortunately speaking good French), the foreign diplomatists stand up, our own consul quite ignorant of the language, and unable, therefore, to talk to the natives, a few walk through the figure of a dance, simple refreshments are introduced, and you are very glad to get away.

The Governor-General's Palace forms our illustration in the present number.†

All whom we conversed with who had visited Trinidad, on the south side of the island (ninety miles from Havana), agreed in recommending its climate for the months of December, January, and February, especially. It is sheltered from northers, and since its accessibility by steam from Havana, has been much frequented, in the colder months, by Americans; the accommodations are about as good as those of Mr. Wolcott's, and about as unreasonably dear.

Numerous topics connected with this interesting country might be enlarged upon, but we have endeavored to keep the narrative within, or nearly so, the subjects for a work like the present. Visitors are of course attracted to the appearance of the firmament, and here enjoy most novel and beautiful starry scenes, which are unknown at the North. The constellations and stars to be seen, include the Southern Cross, which may be viewed from Havana and most parts of the island; Canopus will also attract attention, the astronomer no less than the botanist, here enjoying a fine opportunity for study, and to him, of novelty. The geologist, too, will find new forms of interest; coral and madrepores, the sink-holes formed in the coral formations, &c., may employ him advantageously. No species of natural history but here meets new illustrations; the birds, the insects, and the fish, especially, all present novel forms and features to the Northern eye.

It may be said that it is only since the application of steam to ocean navigation, that the eyes of North Americans have been so longingly set upon Cuba; that period in the history of our race is but a moment. The decadence of Spain, or, rather, her being left behind in the grand progress of civilization, is meantime a great fact testified to by her miserable government, her corrupt court, and her despotism at home and abroad; her progress is downward, and every day's declension, added to her moneyed wants, occasioned by the corruption of her rulers, is a step towards the necessity she will be under of making sale of her lands. A rich neighboring country stands ready to buy; sell she *must*, and buy we *will*. The opportunity is coming, and, meantime, every piece of information we can acquire, is so much knowledge stored up for fixing a value.

* Oddly enough for this year of 1857, the paper is hand-made, with a water mark of Old Spain.

† For the copy of the illustration of the Governor's Palace, and one or two others, we are indebted to Phillips, Sampson & Co., Boston, publishers of Ballou's *History of Cuba*, to which we refer readers desirous of pursuing the subject. It is entertaining and reliable.—E.

COMPARATIVE VALUE OF THE PEAR AND
OTHER FRUIT CULTURE.

BY L. B., NEW JERSEY.

DEAR EDITOR: Your repeated inquiries about "the possibility of having pear orchards," have suggested some reflections which I will submit to you in all humility and with more impartiality than you are perhaps willing to suppose in a man so fond of pears, and so thoroughly convinced of their usefulness as a luxury and an article of diet.

It is beyond contest that of all the fruits cultivated in our northern latitudes, the apple must take the lead, if not in point of profit, at least as the most useful, the most indispensable fruit. We all agree upon that point. There are many varieties of apples as good as the finest pear, and, by some, preferred to all fruit. Next, in point of general usefulness, comes the peach. I do not mention the smaller fruits, as grapes, raspberries, and strawberries; we only intend to talk about fruit *growing upon trees*.

The question arises here, how shall we consider the value of a fruit; by its wholesome influence upon the human diet, or by its market value? As I consider all good and ripe fruits healthy, we shall only look at the *profits*, generally a good criterion of their respective merits. It is beyond a doubt that a good apple orchard, if kept in good cultivation, and pruned, cleaned and watched, will pay handsomely; so will a good peach orchard with perhaps less care. Cherries are out of the question considered as *orchards*. It costs too much, it is too troublesome to pick these, and they do not fill the basket as the larger fruits do. I believe that, in a general point of view, and as long as Mr. Curculio will have his own way, we must let the question be between the *apple*, the *pear*, and the *peach*.

Let us take up the apple first as the first in rank. Nothing in my opinion can be more beautiful, more promising, more tempting than a fine orchard of healthy well-bearing apple trees, as you can see many in Northern and Western New York, Vermont, Massachusetts, Pennsylvania, Ohio, and Virginia. In good seasons these orchards bring good profits; but, *there* is not the main question. We want to compare the products of *an orchard* from the very starting point, not from a well and old established plantation. Let us see:—

One acre of apple trees will *support*, at twenty-five feet distance from tree to tree (and that distance is at least required for standard apple trees), from sixty-five to seventy trees.

These trees if *sound*, and well-growing varieties, as the Baldwin, Northern Spy, R. I. Greening, &c. &c., will require a space of time of from ten to fifteen years before they begin to yield any profits.

It is true that meanwhile the soil can be cultivated as if nothing was in the way; but this large cultivation is a permanent danger for the spare trees in so large a spot of ground; because they are sometimes overlooked. Such an acre requires a different culture and *rotation* from the other parts of the farm, as cattle cannot be turned in, poles and boxes not being a sufficient protection. Many young apple orchards are rooted up and abandoned in disgust because we have no more of that patience and watchfulness, the distinguished features of the old settlers; we jump at conclusions, nowadays.

Well, if it must be so, let us turn our attention to the peach-tree. Three years will bring a good variety into bearing, chiefly where the soil is light and suitable.

Let us allow twelve feet between each tree, the very nearest we can plant a top-spreading tree, and we find about three hundred trees upon the acre.

If you have the soil, locality, and favorable seasons, you can certainly bring a good many baskets to the market after the third or fourth year; but the objection is that a fruit which we can raise so very easily is of little value in favorable seasons, because everybody has half a dozen or so of peach-trees; and, chiefly, because parts of Delaware and Maryland, &c. &c., are covered with peach orchards, coming earlier, and beating ours in the markets. Another objection is the shortness of their season. You must sell the products of your orchard *at short notice*, and perhaps in overcrowded markets; you cannot keep peaches; nor do they last, in a given locality, over two months, from the Early York to the Crawford Late or Late Heath. Then, you have severe winters, killing the weaker varieties, killing most of the blossoms in their dormant state; spring frosts, nipping all the glorious pink blossoms in a single night. You have the gum, the borer, that pest of the peach-trees, the yellows, and that eternal scoundrel, the curculio, turning his attention to the peach when he cannot find plums or apricots enough to suit himself.

As you see, the list of drawbacks for the peach is long. The result is that it has become a very uncertain crop in parts of the union where it was once the most profitable fruit. Let us not imagine that a peach orchard does not require cultivation. It is more than time to do away with the absurd idea that fine fruit can be grown for a certain length of time in neglected soils and without proper attention given to pruning, cleaning, and manuring.

We now come to the pear, and we find that by grafting hardy varieties and good growers upon the quince-stock, to bring these into early bearing, and weaker or slow growing, and, of course well-bearing varieties, upon the pear stock, we can, without any difficulty, plant our pyramids only *eight* feet apart, giving from six hundred and seventy to six hundred and eighty trees to a single acre of ground. You see that my attention is directed to pyramids, not to widely spreading cider pears. I neither recommend nor discard quince-grafted trees; I leave that question entirely aside. Many varieties, as the Bartlett, the Duchesse, &c., if kept in pyramidal shape and under judicious treatment, will bear as well and about as early upon the pear stock, as other varieties will do upon the quince. Those who have not succeeded in raising good and abundant fruit from their quince-grafted trees, must not lay the fault upon the tree, but perhaps upon an injudicious selection of varieties, want of proper care and pruning, bad planting, &c. &c. I say so, because I succeed without any difficulty, and that I have seen many others succeed in the same way. I never said that a tree, weakened by an artificial process, did not require more attention and skill than a free wild standard. Can we raise celery, cauliflowers, lettuce, in a grass plot or among weeds six feet high, as I have seen tried in many *would-be* orchards? . . . But to return to our subject.

A sound pear-tree from the nursery, if well planted and cared for, will bear sometimes the very first year, and most certainly the third year after its planting, if attention be paid to what is stated above. By years of experience I can safely expect from every tree in perfect condition, ten fruits (on an average) the fifth year after its planting; and some dozens about the tenth year. But let us say: ten Bartletts, or Duchesse, &c., upon every tree will bring in round numbers from six thousand five hundred to seven thousand fruits, at how much a piece? I have seen hundreds of dozens sold from six shillings to three dollars a dozen, but let it be something like two or three cents apiece; that would bring from \$120 to \$200 for the crop of six hundred and eighty or seven hundred trees the fifth year, increasing every subsequent year.

Now let us take in consideration that the pear-tree is the most pleasant tree to cultivate, having few enemies, *thus far*, beyond an occasional blight, and a *scorching* of the bark; that, under good cultivation it bears at least eight years in ten; takes any form and shape you choose to give it; requires very little pruning compared to apple and peach-trees; grows and bears in almost all kinds of soils; is hardy, for none of our late severe winters have killed the *dormant* bloombud, as has been the case with the peach for three winters in succession; I say, when you take all this into consideration, what is the tree that will produce a crop which pays better? The season of the pear is protracted; from July to March, (in Europe from June to June); you can keep your late pears, or sell them at your own time, which you cannot do either with peaches, or with cherries. The pear is a universal favorite, suiting all tastes; for, nowhere, in the vegetable kingdom, is to be found a fruit so varied, so distinct in shape, taste, habits, keeping, &c. We have, in their native climate, the aroma of the Hyacinth in the Josephine de M., the vanilla in the *Beurré Antoinette* and *Docteur Capron*; the perfect aroma of the rose in the *Parfum Rose*, the musk in the Bartlett, more striking in the Woodstock; the perfection of all things combined in the unsurpassed *Seckle* and *Fulton*; we have buttery, melting, breaking, cooking pears; sweet, subacid, refreshing juices; from the tartness of the apple to the full sweetness of a preserve. I must stop and conclude by expressing my conviction that the pear will always be a universal favorite, when good pears shall be in general use. Such a Protean fruit, Mr. Editor, is well worth a thorough cultivation, as a melon or a celery plant is. Plant your orchard in the shape of a garden, and under the same laws of cultivation, and it will pay an hundred per cent. of your money invested. I let every man make his own calculation; I will only add that after six years of experience in mine and my friend's gardens, I must consider the pear crop one of the most *steady* and profitable of all the fruits. You must say the same, for your garden was full of noble fruit this season.

I could tell you about a single pear-tree bringing from one hundred to over two hundred dollars, at least three years in four. I could tell you about small *patches* of city gardens yielding from two to four hundred dollars in pear crops, almost every year; but you would not believe me; because in the neighborhood of Philadelphia there is no such cultivation as in Cambridge, all around Boston, and in Rochester and its environs. I only want to say that if you give to an acre pear orchard, planted with leading and marketable varieties, the care, cultivation, and expense, which are bestowed upon an acre of cabbages or celery, you will find, taking together a space of ten years, that your orchard has cost you a great deal less and has paid you as well; but you must drop that word *orchard*, and say a *pear garden*. I could say a great deal more about the pleasure and profit of fruit cultivation compared to the vegetable garden, where the same labor is required every year; while a tree *can* be left alone at least for a season, and is increasing in value annually;* but enough about that; I have taken up too much of your valuable time, and if you think my remarks worth publishing, too much of your varied and most interesting monthly.

* I could prove also that for the first five or six years you can raise vegetables enough among your trees to pay all expenses.



RUSTIC FANCIES, AND THEIR REALIZATION!

BY A WORKING CARPENTER OF NEW YORK.

MR. EDITOR: I am going to write a letter to the *Horticulturist*. You must know I am a carpenter, bred in the city, with uncles and aunts living in the country, whom I visit occasionally. Now, it is a maxim or sentiment among city folks, that your countryman is the true man, or has the happiest and easiest life; and the farmer thinks no one has such hard work as himself. So we go. City mechanics think they have it hard enough. But then, I've a taste for gardening, architecture, town and country, and life in the country. The height of my ambition would be: a business in town through the day, and a place to sleep in the country of nights and Sundays; for 'tis so uncomfortable to be always in other people's houses.

'Tis now some three years since I took the first step to enlighten myself on my new taste. In common with city people, I shared the general opinion about life in the country, but did nothing by way of experiment. At this time, I was carpentering on my own account. Some circumstances transpired which induced me to close my shop. "I will seek employment in the country," said I. In the maple lined streets of Poughkeepsie, I soon found myself. Never had I seen so many trees in a town. I lived here nearly a week before I learned that I was in the heart of the village, so shady was it. I soon had an opportunity of more country and less town. On the third day of my engagement, my employer stated to me he should like me to go some mile or two, to construct a grapery, ice-house, carriage-house, and so on. "How would I like that?" "I would be delighted." Thus was I initiated into studying the green fields and country-seats. But my walk of nights and mornings was so long, as to make it tiresome. I declare, when night came, I could scarcely put one foot before the other. Why couldn't I have a country-seat as well as Mr. Macy. I determined to have one, and I have. To be sure, it is not as large as Mr. Macy's, but what then? Ain't I a philosopher, and can't one exhibit as much taste, and find enough to do on three acres as twenty, or even fifty? I trow yes.

Those evenings I spent in Poughkeepsie were among the most pleasant of my life. If the evening meal was not ready, my *Horticulturist* was in my hands, so that no time might be lost; for you must know, I took the pains to subscribe to some spirited book on my new fancy, and selected the *Horticulturist*. I do not remember ever to have read anything that gave me so much pleasure. This was in the month of June, and I had them from January. Then I got Downing's Rural Essays (his Country Houses I had), and then his Landscape Gardening, and then I became a visitor at Saxton's, and then I turned landscape gardener in theory, and practice, too, as you shall hear. You should have seen me discoursing with the villagers on their want of taste, the best shade trees, and why didn't they till the ground more thoroughly, and less of it, and why didn't they plant more evergreens.

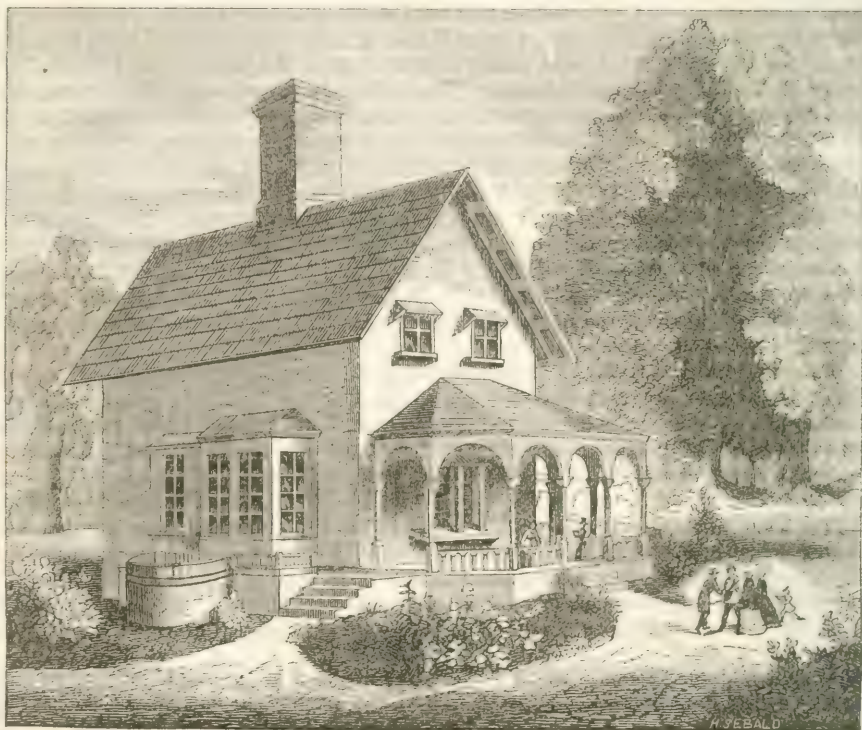
Well, my dear *Horticulturist*, I bought three acres of ground! What do you think of that? A carpenter turning countryman! Truly, no, not at once; but now I am in Downing's parish; for see, it is but just this way; I have my *Horticulturist* for this year, the times being generally so hard about January, and money scarce, I never can renew till midsummer; but then, when I do, unalloyed pleasure attends me for a fortnight, or, at least, till I have perused them thoroughly.

Thus I became a member of Downing's parish; that is, I am improving my

place, and building a house—a cottage. Not a large one, however, but a smaller part of an entire design, unique, and quaint; for by those terms can I best express that which suits my taste and humor. And such a spot as I have for my cottage! It combines wood and water, grass and rocks, cultivated field and forest, oaks, hickories, ashes, birches, cedars—plenty of cedars—(somebody keeps cutting one here and there, thinking I don't see it, but I know every tree on the place), with an undulating surface, and fields with golden grain and sparkling water, enliven the distant view. No stream whose banks appear ever the same, like an immovable statue, but one that retires in the morning, and comes again in the afternoon—a tide-water stream in a meadow, large enough for a ferriage and a sailing party.

On the west side of the Palisade Mountains, and *not* in sight of the Hudson, are my grounds—one and one-half miles from a landing, or a thirty minutes' walk. Will it please you see my plan for a cottage? It stands in the midst of some cedar-trees, enveloped in shade. But then I must thin away the cedars, and cultivate some more refined, for I do not see any mention of the red cedar, and presume you term it a common tree.

Will it please you look at a sketch of my cottage. Here it is.



These pencil sketches are tedious to make, particularly to one who dresses boards in the daytime, and uses the pencil in the evening. I send a ruder sketch from fancy.

Commend me to your correspondent, Jeffreys, for that critique in the April *Horticulturist* of 1856, "Parks against Villages."

I intend having my cottage in two acres of park, and one acre for cultivation, owing to the peculiarity of its situation.

I suppose I am wearying you, the only thing that troubles me. Shall I have sun enough on the western slope of the mountain? and the solid palisade rock comes to the surface in places. Will grapes ripen?

Only one more remark. I do not intend doing everything at once, but I shall plant one tree at a time, and it thoroughly; make a little bit of lawn at first, "four bushels to the acre, as I hope to walk upon velvet."

Truly yours, ALBERT BLAUVELT, *Carpenter*.

12 Grand Street, New York.

[There is a spirit about this letter and sketch of carpenter Blauvelt that we especially like. We have no doubt he is a good workman and a happy fellow, whose hand it would do anybody good to shake, and whose company never would be dull. Let us hear again from you.—Ed.]

BIOGRAPHICAL MEMOIR OF THE LATE FRANÇOIS ANDRÉ MICHAUX.

BY ELIAS DURAND.

(CONCLUDED FROM PAGE 503.)

[From the Transactions of the American Philosophical Society, Volume XI. p. xvii. Read December 5, 1856.]

MICHAUX remained in Charleston until the first of March, 1803, when he embarked again for France. On his arrival in Paris, he made every effort in hastening the publication of his father's *Histoire des chênes d'Amérique*, which had been printed in 1801, but the plates of which had not yet been completed. He attended also to the publication of the *Flora Boreali Americana*, under the supervision of Claude Richard, an eminent botanist and a superior writer. Both these works were finally announced to the scientific world in the years 1803 and 1804, and were eagerly expected by those who took an interest in the vegetable productions of North America.

In the latter year, Michaux published his *Journey to the West of the Alleghany Mountains*, and the following year his memoir *Sur la Naturalisation des Arbres Forestiers de l'Amérique du Nord*. In this memoir, addressed to the Central Society of Agriculture of Paris, of which he was a prominent member, he endeavored to prove the great advantage which might accrue to France from the acclimation of better trees than those which her native forests actually possess, and of such, principally, as might succeed in soils too poor for any of the French trees to thrive in. In support of his opinion he pointed out the swampy lands of France as producing no wood of any value, whilst similar lands in America are covered over with noble and valuable trees, such as the Red Elm, Willow Oak, White Cedar, White and Black Cyprus, &c. He likewise pointed at the sandy and certain cretaceous soils of France as giving growth to nothing but drawfish and insignificant pines, while the equally arid lands of the Southern States produce an abundance of the Live Oak, a tree exceedingly valuable in naval architecture, and which might also succeed in the sandy maritime soils of the southern departments of France.

Besides these advantages, Michaux proposed to increase the number of forest trees, which, in France, is limited to thirty-six attaining the height of thirty feet; eighteen of these form the bulk of the forests, and seven only are employed in civil and naval constructions—whilst he alone had observed in the North American forests as many as one hundred and forty species of similar height and utility.

The means proposed by Michaux to attain these desiderata were simply “to send a naturalist to the United States, with the mission to collect seeds and young trees, and to forward the same to the national nurseries in France.” His propositions were forcibly supported in a report made to the Central Society of Agriculture by Messrs. De Perthuis, Correa de Serra and Cels, and he was finally intrusted with this mission, under the special patronage of the Duke De Gaëte, then minister of Finance and for the account of the Administration of the Forests.

He subsequently embarked at Bordeaux, on the 5th of February, 1806, in a vessel bound for Charleston. After being three days at sea, they were boarded by the British man-of-war *Leander*, Commander Witheby, who, suspecting the vessel to be laden for the account of French merchants, sent her to Halifax, there to be disposed of by the Court of Admiralty, which would decide whether she was a legitimate prize or should be liberated. Of all the passengers, Michaux was the only one ordered on board the *Leander*, where he remained during a cruise of forty-three days, after which they reached the Bermuda Islands. While in port he was permitted freely to go ashore, and had thus the opportunity to make some interesting observations, the details of which he addressed to the Professors of the Paris Museum of Natural History, in a memoir entitled *Notice sur les Iles Bermudes, et, particulièrement, sur St. Georges*.

Michaux was finally released and permitted to sail for the United States, which he reached towards the end of May. Beginning his explorations at the district of Maine, where the winter is as rigorous as in Sweden, though ten degrees farther south, he travelled over all the Atlantic States as far as Georgia, where the heat, during six months of the year, is as great as in the West Indies. Besides a journey of 1800 miles from northeast to southwest, he made five explorations into the interior of the country. The first, along the rivers Kennebec and Sandy; the second, from Boston to Lake Champlain, crossing the States of New Hampshire and Vermont; the third, from New York to lakes Ontario and Erie; the fourth, from Philadelphia to the rivers Monongahela, Alleghany and Ohio; the fifth, from Charleston to the sources of the Savannah and Oconee Rivers. In travelling along the sea-coast, he visited the principal dock-yards, with the view to examine the timber employed in ship-building; he also examined all the workshops where wood was worked into forms. As the knowledge of which he was in need was, principally, in the possession of artisans, he consulted the most skilful workmen, and by means of a series of questions, previously prepared, he collected a mass of valuable information.

In his different journeys into the interior he paid particular attention to the trees that formed the bulk of the forests, with reference to the nature and uses of their woods, or as objects of commerce between the different States or of exportation abroad. He ascertained the sources of the different barks employed in tanning; inquired into the quality and price of the various woods used for fuel, and formed a complete collection of polished specimens of the species employed in cabinet work or otherwise. In a word, the range of his observations was unlimited, and could not fail to interest exceedingly the people of the United States, as well as Europeans, and to become one of the main points of the splendid work which he published almost immediately after his return.

Michaux remained nearly three years in the United States, diligently employed

in his arduous task. During his residence he formed many valuable acquaintances. Besides the late Muhlenberg, Hamilton, Barton, Hosack, Alex. Wilson, Eddy, &c., he was on terms of friendship with others still living, among whom I may mention Dr. John W. Francis, of New York, and Major Leconte. Michaux was elected a Member of the American Philosophical Society on the 21st of April, 1809; and we have a proof of the value in which he held this honor, by the handsome provision made in favor of this institution, in his testament, bearing date of May 30th, 1852.

I should fail in my duty towards one who was the companion and helpmate of the two Michaux, if I omitted here to mention his name. This is the humble Paul Saulnier, the same journeyman gardener who, in 1785, had accompanied them to this country, and was intrusted with the care of the New Jersey nursery. François Michaux never spoke of him but with feelings of respect and affection.

"Originally of France," says Dr. Francis, in his eloquent discourse on the Natural Sciences, "his early life was absorbed in practical horticulture, as an experimenter in vegetable physiology, and as one of the subordinates of the *Jardin des Plantes*. Here he had instilled into him the principles of *ordines naturales*, by their author, de Jussieu. Shortly after he was selected for his botanical attainments to accompany the elder Michaux to this country. He proved serviceable as a collector. By royal means, Louis XVI., by whose patronage Michaux was authorized to procure American productions, a plot of ground in New Jersey was appropriated as a suitable garden for rearing and preserving plants and trees, mainly designed for the institutions of France.

"In this sequestered place, Paul, with the exception of occasional excursions to New York and to parts adjacent, passed the remainder of his days. Here he was visited by the younger Michaux, Pursh, Douglas, Bradbury, and other foreign naturalists. Poor Wilson, the Ornithologist, often found shelter within his humble dwelling from the lowering sky and tempestuous storms; and often I have heard Michaux enlarge on the refreshing enjoyment of Paul's hospitality. Paul was a sort of Sir Oracle with them; and his responses were heeded by all who sought practical knowledge in natural history. Paul, I believe, may be estimated the first, as to time, who, without much pretension, inculcated among us the classification of Jussieu, and the arboriculturist may perhaps be now, for the first time, informed that to him are we to assign the introduction into this country of the Lombardy Poplar. Paul holds a place in the progress of botanical pursuits not unlike that enjoyed so long by the venerable Wm. Bartram, though I should be reluctant to assign to him a place as conspicuous as that of our philosophical traveller.

"Let Michaux speak of the goodness of his heart and of his disinterested philanthropy: 'Paul was so exclusive in his attentions to his avocations, that hardly any other subject than trees and plants ever found entrance into his mind. To the day of his death, he considered his little circumscribed residence as still the property of his royal master; and, ignorant of the vicissitudes of political revolution, reluctantly gave credence to the fact of the decapitation of his bountiful but unfortunate King. Paul now lies in the Hackensack churchyard; his tombstone records not half his excellence.'"

On Michaux's return to Paris, he presented himself before the Central Society of Agriculture, to which he was mainly indebted for his mission to the United States, and there gave an account of his voyage, of the various tasks he had performed, and of the flattering results which had been already obtained. From the seeds which he had forwarded during his absence, more than two hundred and fifty thousand young trees had already sprung up, which were fairly promising to accomplish, in succeeding times, the objects contemplated by him, and confidently

expected by his fellow members of the Society of Agriculture, who appointed a committee to report on the success of his voyage. Correa de Serra, chairman of that committee, in a most flattering report, highly complimented Michaux on the faithful execution of his trust, and for the importance of the services he had rendered to his country, he called forth a vote of thanks.

During the two years following his return, Michaux was actively employed in the publication of his great work, *Histoire des Arbres Forestiers de l'Amérique du Nord*, so anxiously expected by all who took an interest in the Flora of the United States, and in the observations of one so well versed in agricultural pursuits. The first volume appeared in 1810; the second in 1812; and the third in 1813.

This magnificent work, illustrated by 144 copper plates, designed by the two Redouté and by Bessa, and engraved by such eminent artists as Gabriel, Renard, Boquet, Bessin, and Dubreuil, was translated into English by Augustus L. Hillhouse, and published in Paris in four volumes by Charles D'Hautel (1817-19), under the title of *North American Sylva*, with the addition of several plates and some new observations by the author. Mr. Wm. Maclure purchased the plates in Paris and brought them to this country. To this circumstance is owing the publication of two American editions, which are now followed by a third. The first was issued at New Harmony, Indiana, in 1842, and the second in this city in 1852, edited, with additions and notes, by J. Jay Smith, Esq. Mr. Nuttall, soon after, published, on Michaux's plan, an additional *Sylva Americana*, describing and illustrating as many as one hundred and twenty trees, mostly unknown to his predecessor, indigenous to the far west regions, Oregon and California included.

Of this splendid work of Michaux, the author of an article on the botany of the United States, published in the 13th vol. of the *North American Review*, remarks: "It is the plan of Michaux's history of our forest trees to unite the advantages of a work strictly botanical and one relating to the useful arts; but, especially to collect all the scattered details which books or experience could furnish him, with respect to the application of various kinds of wood to the purposes of life. Botanical descriptions can easily be made or found; but, in order to ascertain their useful properties, it was necessary to consult artisans, in almost every branch of practical mechanics, to frequent dock-yards or workshops in which wood was employed, and, in short, to gather information from every attainable source. From these inquiries Michaux had obtained a most extensive collection of curious and important facts, which rather belonging to the application of botany than to botany itself, are nevertheless essential to the complete knowledge of the plants of the United States; for, besides the commercial and practical uses of our trees, we have a very perfect account of the inflorescence, fructification, growth and botanical habit of them individually considered, as also many interesting facts with regard to them taken together as composing forests."

In a letter dated October, 1852, addressed to the President of the American Philosophical Society, Michaux expresses himself in the following words, with regard to his *Sylva Americana*: "The science of botany was the principal object of my father's explorations in North America, and the *Flora Boreali-Americana* was the result of those explorations. As for me, I took another view of the vegetable kingdom whilst in your country—a view more limited and less scientific, it is true; but, perhaps, more generally profitable to the farmer and landholder, as well as to that class of society, so numerous in the Northern States of the Union, who employ wood in so many different ways. I do not consider my *Sylva Americana* as complete as it might be; thus, for instance, I have omitted several

species which grow in Lower Louisiana and in the two Floridas. In the second place I have described and figured some trees that are deficient in the flowers and in the fruits. Had circumstances permitted, I would have returned to the United States, and, in a new edition, have corrected the errors, and filled up the omissions. I would thus have been able to present to the American nation a work worthy of her great name; but now that I have arrived at a very advanced age, nearly 83 years, I can do nothing more, in this respect, than to express my regrets and the hope that some native arboriculturist may complete my researches on the plan which I have adopted. The publication of such a work would be attended with much benefit to the country, and afford particular honor to him who would undertake it."

Since the appearance of his great work, Michaux has devoted all his attention to his favorite pursuits—the cultivation and propagation of trees presenting a special object of public utility. Intrusted with the administration of a large estate belonging to the Central Society of Agriculture, experimenting largely in silviculture on the extensive plantations of Mr. Delamarre, and owning himself a country place near Pontoise, he never ceased, until his death, to be actively employed in experiments on arboriculture, either suggested by himself or others.

Michaux had retained in this country a few correspondents, who sent him occasionally new supplies of seeds, and, through a letter furnished by one of these gentlemen, I had the gratification to become acquainted with him in the autumn of 1824.

When living in Baltimore, from 1816 to 1824, I formed an intimacy with a French gentleman of the name of Leroy, who had known Michaux in this country, and had been since in correspondence with him. This Mr. Leroy, who was himself an excellent arboriculturist, having been earnestly solicited by his friend to send him all the seeds and young trees which he could procure in the vicinity of Baltimore, applied to me, as a fellow botanist, to assist him in this undertaking. We therefore went to work together in earnest during the autumn of 1819, rambling into the woods with a negro boy, climbing and beating Oaks, Maples, and Hickory-trees; uprooting the shrubs and young trees that fell in our way, and collecting seeds of every sort. The result of our campaign filled up several large boxes, which were forwarded to Michaux in the early part of the winter.

When I visited Europe in 1824, Mr. Leroy favored me with a letter of introduction to his friend, recommending me as his colaborer in the collections which had been forwarded to him from Baltimore some years previous. This letter did not fail insuring to me a hearty welcome at the hands of Mr. Michaux. I saw him frequently, and breakfasted with him at his winter quarters in Paris, on the place St. Michael, which was then a market for garden vegetables and fruits. We seldom sat at the breakfast table without having previously made an inspection through the stalls where fruits and vegetables were sold; and he was pleased to point out to me the rarest and most beautiful, with a passing notice on their origin.

Mr. Michaux was extremely desirous to show me in detail his fine nurseries, especially those which contained his Maryland trees, to "*contemplate*" the result of the troubles and fatigues which they had cost me; but the weather was so unfavorable during the whole season that I could visit but one of them, which I found wholly planted with Maryland Oaks, and covering an extensive plot of ground. Though the young trees, then devoid of their foliage, had suffered much the second year from the depredations of a herd of swine that had trespassed upon the grounds, they still appeared vigorous and promising, and are, I suspect, the very same trees that are now (as I see by the Paris papers) adorning

the Quai des Tuileries, and some of the new boulevards of the French metropolis, under the denomination of *American Oaks thirty-six years old*.

In acknowledgment of the services I had thus rendered him, Mr. Michaux presented me with a copy of the French edition of his magnificent work, beautifully bound, in three volumes, and containing a double set of plates, the plain and the colored.

Mr. Michaux's person was tall, strongly built, but not corpulent. His complexion was fair; he was slightly pock-marked, and possessed prominent features. His light blue eyes had a peculiar expression, which startled me at first. His countenance was stern and cold on first approach; but it smoothed off and brightened gradually as he spoke and became more familiar; his utterance, in the beginning somewhat slow and cautious, became rapid and impressive, and his conversation gay and even humorous. His manners were quite simple and unaffected, frank and lively—they were altogether those of an open-hearted country gentleman, in whose presence, young as I was at the time, I could feel neither embarrassment nor shyness.

I do not think that since this interview with Michaux his position and pursuits underwent much change. To the very last day of his life he was fortunate enough to retain his health and remarkable activity of body and mind. The main point of his arboricultural experiments was to turn to advantage those lands, called heaths, which, in France alone, do not cover less than two millions of acres, and were considered utterly sterile. Through forty years of experiments performed by him on the large demesnes belonging to the Central Society of Agriculture and to Mr. Delamarre, he has ascertained that such lands could be improved and rendered productive by the cultivation of certain resinous trees, which succeed well in such soils. Of all the American and European pines with which he has experimented, Michaux gives the preference to the Russian Pine, *Pinus sylvestris*, which, in his letter to the President of the American Philosophical Society, above mentioned, he recommends warmly to the particular attention of the agriculturists of the Northern and Middle States of the Union.

With the view of remedying the scarcity of wood under which this country is beginning to suffer, through the rapid and improvident destruction of the native forests, Michaux recommends also to the American people the cultivation of bushy or spreading trees, producing copses, or *Taillis*, to which he has applied a special mode of culture, more rational and more favorable to the development of vegetation, and, consequently more profitable to the landholders.

We are informed by the same letter that Michaux was then preparing for publication a work in which he intended succinctly to develop his ideas on those interesting subjects, and to lay open the results of his observations and practical experience, for the particular benefit of the farmers and landholders of the United States.

Michaux's last days were thus passed tranquilly, dividing his time between his favorite occupations of arboriculture and the society of a few friends, among whom the most intimate were President Seguier, Messrs. Macarel, D'André and Vilmorin. Louis Philippe himself, who had known him in this country, never ceased to show him the greatest esteem and affection. He was always happy to see some transatlantic acquaintance. All the Americans who have seen him in Paris, or at his country residence of Vauréal, can testify to the urbanity of his manners and to the cordiality with which he received his visitors. In conversation with Americans nothing afforded him more pleasure than the subject of this country. He listened with amazement to the wonderful accounts of its progress, of the rapid increase of its population, of its wealth and resources, of its success in war and in diplomacy. The names of new cities and innumerable towns, located

on sites which, in his time, were still covered with the native forests; the mention of the multifarious railways, extending their arms in all directions and encircling the whole country in an immense network of iron; the speedy steam travelling by land and water, which would have rendered his long and painful journeys so short and so easy; in fine, the electro-magnetic telegraph, another offspring of American genius—all these wonderful achievements elicited from him the greatest amazement and the most emphatic exclamations: "Mon Dieu, Mon Dieu, est il possible!"

He felt proud to mention that he had been one of the first steam navigators, and boasted of an early acquaintance with Fulton, whom he met at Albany in 1807, under the following circumstances: He was then returning to New York city from his exploration to the lakes Ontario and Erie, and intended to take passage in a packet boat for New York; but seeing an advertisement of a steam-boat to depart the same morning, he had the curiosity to examine her, and he determined to take passage on her. Strange to say, he and a Frenchman who accompanied him were the only passengers on board; it was the first trial trip. Fulton was on board, and, as might be supposed, between two such men, speaking equally well the French language, an intimate friendship was formed, which continued through life. The ardor of this friendship on Michaux's part was proved by his devotion to Fulton's memory.

Michaux, having found in Paris a model, in clay, of a bust of his friend by Houdon, bought it and caused it to be copied in marble by the best artist he could find, at the cost of 1000 francs. He obtained permission afterwards from the Government to have it placed in the Marine Department of the Louvre, near that of Papin, who had done, himself, so much for steam.

Michaux's turn of mind was also literary. Besides his great work on the *North American Trees*, his *Journey to the west of the Alleghany Mountains*, and the memoirs already mentioned, he published, in 1831, an essay on the *Planera Crenata*; in 1852, a memoir on the *Causes of Yellow Fever in the United States*, and another one on the *Culture of the Vine*. He may have left also, at his death, some unpublished papers, among which is probably the memoir alluded to in his last communication to the President of the American Philosophical Society. This communication, dated, as I have said above, at Vauréal, near Pontoise, October 24th, 1852, was particularly intended to inform the President and his fellow-members that, desirous of giving the American nation a testimonial of his heartfelt gratitude for the hospitality and assistance which his father and himself had received in this country, during the course of their long and toilsome journeys, he had made testamentary provisions in favor of the Society, with the view to afford the means of promoting the progress of the science of Sylviculture in the United States.

This testament, which Michaux had intrusted to the care of a gentleman of this city, Mr. Isaac Lea, whom he had consulted in the matter, was deposited four years ago in the archives of the Philosophical Society; but was not to be opened until after his death. This was done, consequently, on the 20th of October, 1856, by the Recorder of Wills of the city of Philadelphia. By this document he bequeaths to the American Philosophical Society the sum of fourteen thousand dollars, for special purposes connected with the particular object of his constant aspiration, "The progress of agriculture with reference to the propagation of useful forest trees." By the same instrument, he likewise endows the Society of Agriculture and Arts of Boston with the sum of eight thousand dollars for similar purposes.

Michaux's demise was made known to the American public by Prof. Asa Gray,

in the columns of the July number of the *American Journal of Sciences and Arts*. It had been communicated to his lady by a friend of Mr. Michaux, who thus relates the circumstances of his death: "I have to speak to you of the death of our good friend, Mr. Michaux. He was carried off with frightful suddenness by a stroke of apoplexy, on the 23d of October, 1855. He had been occupied the whole day planting American trees, and himself directing his journeymen. He withdrew from his work in good health, dined moderately, but with good appetite. He went to bed as usual, and fell asleep. At about one o'clock in the morning, his wife heard him move about and calling. She instantly rose from her bed and ran to his apartment. He was still struggling on the floor when she entered his room; but on reaching him she found that he had breathed his last. Physicians were called in immediately, but all in vain; life was totally extinct. He died at the age of eighty-five years.

Michaux left no issue. He had lived single to an advanced age, when quite suddenly he became tired of celibacy, and changed abruptly his condition, by marrying a relative of his, who, for a long time, had been the manager of his house, his attendant in sickness, and companion in his solitude. They lived most happily together, and at his death he left her a comfortable provision for the remainder of her life. Mr. Michaux was in easy circumstances, but by no means rich. To his title of Chevalier de la Légion d'Honneur he added those of Correspondent of the French Institute, of Member of the American Philosophical Society, of the Central Society of Agriculture of Paris, of the Society of Agriculture and Arts of Boston, &c. &c.

PRACTICAL HINTS TO AMATEURS.

BY THE LATE A. J. DOWNING.

GRAFTS may be cut now, as well as later in the winter, if more convenient to you. Keep them in a cool place, half buried in earth or sand, till you want them. If not wanted till spring, bury them out of doors, with only a couple of inches of the points exposed, and throw two or three inches of litter over them.

Strawberry beds will produce good crops in open winter quarters, in the northern States; but they will bear much better ones, and much larger fruit, if you cover them lightly with straw, salt-hay, or stable litter; otherwise you are likely enough, in stiff soils, to find half the plants dead or injured by being "thrown out in the spring."

You may transplant, all winter, when the ground is not frozen; only take care not to expose the roots to frost while not covered with soil. In winter planting, it is best to pile up a mound of earth six or eight inches around the trunk of the tree. This keeps it steady, and protects it, partially, against severe frost.

If you are very anxious to be cheated, send to some nursery that modestly informs the public of its immense superiority over every other establishment in the world; or that offers hundreds of varieties of "splendid, pre-eminent and delicious" fruits, not to be found elsewhere—or that challenges competition for accuracy. Where there is so much modesty in boasting, there must be great diffidence in sending you anything but what the dealer knows to be first rate; and you must be aware, yourself, that there are now *hundreds of first rate* fruits. If you send to a nursery for a new variety of tree or plant, don't expect to see the plant as high as your head, or the tree fit to bear a bushel of fruit. Be content if it is healthy, has a good root, and is a foot high. People "in the trade," can't afford to send you large trees, full of grafts or cuttings, of sorts which are scarce

as guineas, and which have not been long enough in the country to enable them to get more than one year's growth. If you want "big trees," order the good old standard sorts.

When a tree brought from a distance has been a long while out of the ground, and looks quite dried up, don't plunge it into a tub of water; that would be well-nigh as fatal as giving a gallon at a single drink, to a man nearly dead of thirst. *Moisten* the roots, and after shortening the branches severely, bury the *whole tree* in the ground for three or four days.

When you prune a small branch of a tree, always see that a *bud* is left opposite the cut; this will help it to heal over quickly; and you will assist the matter still more, by making the cut always a *sloping* one.

If you are obliged to plant trees in the rich but worn-out soil of an old garden, and you have not time nor means enough to cart away part of the old soil and replace it with new, you can renew its fertility by throwing a part of it up in heaps, mixing it with brush, fagots, sawdust, or any sort of cheap fuel, and burning it.

Don't let insects of various kinds overrun your orchard or garden, and then lazily fold your arms and say, "It's no use, this trying to raise things, now that so many vermin are about." Spend three days, industriously, in the early stage of the matter, in putting down the rascals, and then look around you and see if a little industry is not better than grumbling.

If you want early vegetables, set yourself, in winter, about making some boxes to protect them. A few cheap boxes, a foot square, with a pane of glass in the top, to put over tender things at night, will cost you but a trifle, and will give you ten days start of the open ground.

To have good currants, gooseberries, or raspberries, the old plants should be dug up at the end of three or four good crops, and their places supplied by young ones. If you plant a few cuttings of the two former, as you should do, every spring, you will always have a supply of fresh plants ready at all times; always cut out all the eyes (buds) of a cutting, on that part which goes in the ground; otherwise you will be troubled by their coming up, year after year, in the form of *suckers*.

If you have a tree that grows "apace," but won't bear, dig a trench around it, and cut off a third of the roots. This will check its growth, and set it about making fruit buds.

Never buy fruit trees in the "market-places," of unknown venders, who have no character to lose. You cannot tell by "examining the article," whether they cheat you or not; and you get your tree at half price, only to wish, when it comes to bear, that you had gone to an honest dealer and paid ten times as much for something worth planting. "Hog-Peach" trees are dearer at a penny, than "George the Fourths" at a dollar.

If you don't love flowers yourself, don't quarrel with those who do. It is a defect in your nature which you ought to be sorry for, rather than abuse those who are more gifted. Of what possible "*use*" is the *rainbow*, we should like to know? And yet a wiser than you did not think the earth complete without it.

Do not grudge the cost and labor necessary to plant a few of the best shade-trees round your house; and if you have any doubts about what to plant, stick in an elm. There are few trees in the world finer than a fine sweeping elm; and two or three of them will give even a common looking dwelling a look of dignity. If you plant fruit trees for shade, they are likely to be broken to pieces for the fruit, and they grow unsightly by the time that forest trees grow spreading and umbrageous.

There are very few men whose friends build so fair a monument to their memory, as they can raise with their own hands, by planting an elm or a maple where it can grow for a century, to be an ornament to the country.

Don't be afraid to clip hedges, or cut back young trees, when you are planting them. You gain more growth than you lose, though you may not be able to comprehend it till you have seen it with your own eyes.

Never work your ground in wet weather if you can avoid it, as it makes it clod-like and compact by forcing the air out. And ridge up your kitchen garden ground before winter, so as to expose as much surface as possible to the action of the frost.

Never lose an opportunity of getting *sods* from the corners of old pastures, or the breaking up of commons or meadows, where they can be spared. Placed in heaps, and rotted, they make excellent mould for tender plants or trees; placed in a pile and burned, they form the best fertilizer for roses and rare flowering plants.

Send a man about your neighborhood to collect all the bones that are thrown away as useless by persons ignorant of their value. Put them in a large pot and pour sulphuric acid and water over them, and they will all turn to paste, and finally to powder. This is the best possible manure for pear-trees and grape-vines.

AN OLD DIGGER!

GRAPES UNDER OUTSIDE DOORS.

THE *Saratoga County Press* says, respecting the Vermont Patent Grapery mentioned in our September number: "In reading the notice of a Vermonter's patent for a grapery, we are reminded of a conversation with one of our subscribers, C. W. Dake, Esq., of Greenfield, last spring. He was telling us of the abundant crop of Isabella Grapes he raised every year, when we made some inquiries in regard to his way of saving them from the early frosts that generally prevented their reaching maturity in this latitude. In answer to this, he said that he set his vine on the south side of his barn, and had the eaves of the barn project over it, or else a sort of projection was made from the side of the barn for a short distance. Then the vines were trained up against the side of the barn, and some wide doors were made like ordinary cheap barn doors, and hung each side of where the vines were trained up. When there was a prospect of a frosty night, the doors were closed and fastened, thus in a single instant protecting them, and when morning came, the doors were opened to let in the sun on them. In this way, with a very little expense and trouble he was enabled to secure the ripening and protection of his grapes, and enjoy a luxury such as few persons know of hereabouts. Although we have no recollection of speaking about it, we presume he keeps his vines shut up in winter, perhaps protected with straw, which might be done with little trouble, if necessary. If the *Horticulturist* editor or correspondents can suggest anything cheaper or better than this, Mr. Dake and our readers would like to hear of it."

Undoubtedly, this is a good plan in northern latitudes for grapes which only occasionally are injured by early frost. We have seen something of the kind which was successful, and even for foreign grapes in cities, a simple protection might be sufficient. Black Hamburg Grapes have frequently been thoroughly ripened on walls in the open air in Philadelphia—say one year in four, and under favorable circumstances; with doors such as described, they would probably ripen nearly always.

A QUAIN OLD BOOK ON HORTICULTURE.



NEW ORCHARD AND GARDEN; OR, THE BEST WAY OF PLANTING, GRAFTING, AND TO MAKE ANY GROUND GOOD FOR A RICH ORCHARD: *Particularly in the North, and generally for the whole Kingdom of England, as in Nature, Reason, Situation, and all Probabilitie, may and doth appeare. With the Country Housewife's Garden for Herbs of Common Use—their Virtues, Seasons, Profits, Ornaments, Varietie of Knots, Models for Trees, and Plots for the best ordering of Grounds and Walkes. As, also, the Husbandry of Bees, with their several Uses and Annoyances, all being the Experience of Forty-Eight Yeares' Labour, and now the third time Corrected, and much Enlarged.* By WILLIAM LAWSON. Where-

unto is newly added the *Art of Propagating Plants, with the true ordering of all manner of Fruits, in their Gathering, carrying Home, and Preservation.* Printed at London, by J. H., for Francis Williams, 1626.

WE beg the reader to observe the date of this quaint title-page of a thin quarto of fifty-seven pages, which a valued friend (Dr. C. D. Meigs) has laid on our table as the greatest curiosity of gardening literature still extant. Gerard's *Historie of Plants* was printed in 1597, and Evelyn's *Sylva* about fifty years after that of Lawson. Indeed, Lawson's was the gardening book of England two hundred and thirty years since, when Charles the First was on the throne. This rare copy is perfect in all its pages, quaint to the last degree in its style and printing, and so very curious in all respects as to be a strong inducement to reproduce it for the benefit and amusement of the horticulturists of the present day.

Let us see what are its contents. The title-page, in addition to its lengthened details, contains a cut (given in our last number) rudely representing an orchard, with three men at work. One is trimming a sucker that has sprung up near the root of a fruit-tree, with a sickle; another is digging a hole, with a trimmed tree lying beside him, ready to plant; the third has a spade inserted in the ground, and holds a young fruit-tree in his left hand, ready to be inserted. Around the cut are the following mottoes: "Skill and paines bring fruitfull gaines;" "*Nemo sibi natus.*" The work is dedicated very gracefully to the "Right Worshipful Sir Henry Belosses, Knight Baronet." The preface is very curious. Then follows a table of contents. Chapter I. treats of "the best, surest, and readiest way to make a good Orchard and Garden, and of the Gardener and his Wages." This functionary's qualifications should be "religious, honest, skilfull, painfull," and declares "there is no plague so infectious as popery and knavery." Concerning his skill, "he must not be a scholist, to make show, or take in hand that which he cannot performe, especially in so weighty a thing as an orchard, than the which there can be no humane thing more excellent, either for pleasure or profit, as shall (God willing) be proved in the treatise following. The gardener had not need be an idle or lazy lubber; there will ever be something to doe. Weeds are always growing. The great mother of all living creatures, the earth, is full of seed in her bowels, and any stirring gives them heat of sunne, and being laid neere day, they grow," &c.

As to the aphorisms of the present day, we find them mostly here either forcibly taught, or alluded to in such a manner as to leave us almost ready to say "there is" little "new under the sun." In barren ground, you are to dig large holes, "and fill the same with fat, pure, and mellow earth, one whole foot higher than your soyle" * * "But be sure you

set your trees neither in dung nor barren earth." Deep trenching is commanded, and many curious and just remarks are made regarding "soyles," moisture, and other similar topics, all treated with what we are fain to consider as modern experiences.

The style in which the garden and grounds are to be laid out, will excite a smile. A cut represents the old manor-house at the top, with a broad walk leading down the centre; at the first cross walk is a fountain, and at the second and last are stone steps; the whole is in squares, and at the side of the page are the directions. The reader will remark that the distance recommended between trees is sixty feet! A garden-knot is simply a mathematical flower bed.

Then we have chapters "of Fences," "of Sets," "of the Distances of Trees," "of the Placing of Trees," "of Grafting," "of the Right Dressing of Trees," with a portrait of espalier fruit-trees, &c., and a long pole, trimmed up to two high branches! as they still trim in cities, "of Foyling" (manuring), "of Annoyances," which consist of "Gals," not girls, but galls, "Canker, Mosse, Weaknes in Setting, Barke Bound, Worme, and Deadly Wounds," with the proper "Remedys." Animals and birds are treated of in the same excellent mode.

A chapter on the "Age of Trees," and finally, a capital essay on "Gathering and Keeping Fruits," in which we trace the original and very excellent "fruite room" now much employed.

We are extending this notice beyond our usual limits, but the style and manner are so excellent, and the truths the very same we now insist on, that we must make an extract from page 53, near the close of this very rare and unique fasciculus:—

"When God had made man after his own image, in a perfect state, and would have him to represent himself in authority, He placed him in Paradise. What was Paradise but a garden of trees and hearbes, full of pleasure, nothing there but delights. * * And whither do men withdraw themselves from the troublesome Affayres of their Estate, being tired with the hearing and judging of litigious Controversies; choaked (as it were) with the close ayres of their sumptuous buildings, their stomacks cloyed with variety of Banquets, their eares filled and overburthened with tedious discoursings; whither? but into their orchards, made and prepared, dressed and destinated for that purpose, to renue and refresh their senses, and to call home over-wearied spirits. Nay it is (no doubt) a comfort to them, to set open their casements into a most delicate garden and orchard, whereby they may not only see that, wherein they are so much delighted, but also to give fresh, sweet, and pleasant ayre to their galleries and chambers. Farewell."

The work is much applauded by Evelyn in his *Sylva*. How it ever got to America, and by whose care it has been so wonderfully preserved, with only a thin, paper cover, is a mystery.

The publisher of the *Horticulturist*, after considerable inquiry, discovered sufficient black-letter type to set up a page at a time; the pages were then stereotyped with *fac-similes* of the curious old wood-cuts, and the whole work is now reproduced, so as perfectly to resemble the original in all respects. He offers it for sale as the greatest curiosity for a horticultural library, for *one dollar*, and an inducement to a little exertion on the part of the friends of the *Horticulturist*; it will be forwarded to every person who procures and remits for a club of four or more subscribers, as will be seen in the advertising pages.

In order to exhibit the style of the book as now reproduced, we insert a stereotyped page, which fortunately happens to be of the same size of those of the *Horticulturist*; so that those who choose to do so, may bind the work with the present, or the next volume:—

tender leaues and twigs, but not the tree. Therefore (to returne) it is perillous to stop the sap. And where, or when, did you euer see a great tree packt on a wall? Nay, who did euer know a tree so unkindly splat, come to age? I haue heard of some, that out of their imaginary cunning, haue planted such Trees on the North side of the wall, to auoid drought, but the heat of the Sunne is as comfortable (which they should haue regarded) as the drought is hurtfull. And although water is a soueraigne remedy against drought, yet want of Sun is no way to be helped. Therefore to conclude this Chapter, let your ground lie so, that it may haue the benefit of the south, and west Sunne, and so low and close, that it may haue moisture, and increase his fatnesse (for trees are the greatest suckers and pillers of earth) and (as much as may be) free from great winds.

CHAP. III.

Of the Quantitie.



Orchard
as good
as a corn-
field.

Compared
with a
Vine-
yard.

Compared
with a
garden.

It would be remembred what a benefit riseth, not onely to euery particular owner of an Orchard, but also to the common-wealth, by Fruit, as shall be shewed in the 16. chapter (God willing) whereupon must needs follow: the greater the Orchard is (being good and well kept) the better it is, for of good things, being equally good, the biggest is the best. And if it shall appeare, that no ground a man occupieth (no, not the Corne-field) yeeldeth more gaine to the purse, and house-keeping (not to speake of the unspeakable pleasure) quantity for quantity, than a good Orchard (besides the cost in planting, and dressing an Orchard, is not so much by farre, as the labour and feeding of your Corne-fields, nor for durance of time, comparable, besides the certainty of the one before the other) I see not how any labour, or cost in this kind, can be idly or wastefully bestowed, or thought too much. And what other thing is a Vineyard (in those countries where Vines doe thriue) than a large Orchard of trees bearing fruit? Or what difference is there in the iuice of the Grape, and our Cyder and Perry, but the goodnesse of the Soile and climate where they grow? which maketh the one more ripe, and so more pleasant then the other. Whatsoever can be said for the benefit rising from an Orchard, that makes for the largenesse of the Orchards bounds. And (me thinkes) they doe preposterously, that bestow more cost and labours, and more ground in and vpon a Garden than vpon an Orchard, whence they reape and may reape doth more pleasure and more profit, by infinite degrees. And further, that a Garden neuer so fresh, and faire, and well kept, cannot continue without both renewing of the earth, and the herbs often, in the short and ordinary age of a man: whereas your Orchard well kept shall dure diuers hundred yeeres, as shall be shewed chapter 14. In a large Orchard there is much labour sau'd, in fencing, and otherwise: for three litle Orchards, or few trees, being (in a manner) all out-sides, are so blasted and endangered, and commonly in keeping neglected, and require a great fence; whereas in great Orchards, trees are a mutuall defence one to another, and the keeping is regarded, and lesse fencing serues six acres together, than three in seuerall inclosures.

Now

GARDEN VEGETABLES, NO. 12.—BEETS.

BY WM. CHORLTON.

THE many sorts of beets which are generally made use of for the kitchen are all of biennial duration; they belong to the natural order *Chenopodea* or Spinaceous plants, and are recognized by the botanist as two species, viz., *Beta vulgaris* and *B. cicta*. The probability is, however, that these are nothing more than well-marked varieties; certainly, as practically presented to us, the thing is as clearly defined in some of the different sorts that are cultivated and known to be only such. The whole genus is indigenous to the temperate and warm parts of Europe, and has been accepted in the list of edibles since the time of the elder Tradescant. Notwithstanding their eastern origin, beets thrive as well on our western continent, and enjoy the influence of our sunny skies, as is proved by the greater amount of saccharine matter which is deposited in the roots. This fact explains the reason why many esculents are consumed here to a large amount that are only made available in the northern parts of that country as additions, in the form of pickle, &c., upon the tables of luxury. Such is the case with beets; yet we have them as a wholesome and every-day dish throughout the year. To maintain this uninterrupted supply in the best state requires a series of sowings, by which young and tender roots can always be had. The Turnip-rooted kinds may be put in from the commencement of the ground being in good working order after winter, at intervals of three weeks, up to the middle of July, in the more northern States, and the latter part of August as we proceed further south. The sowing of the Long-rooted sorts should be discontinued some three weeks earlier, as otherwise the roots would not mature sufficiently to keep well through the winter.

Beets will grow better than most other root crops in a partial shade, but are always of much superior quality, and more profitable, when in an open exposure. The soil should also be rich, light, and mellow. If abundantly manured for a previous crop so much the better; but when not so, apply a liberal dressing of good rotted barn-yard dung, which dig in, and break up the soil well as the work proceeds. Sow the seeds two inches asunder, in drills one foot apart and one inch deep; cover up carefully. Here I would protest against that everlasting use of the rake in the vegetable garden, which some men are so guilty of. To cover seeds which are sown in drills, commence at the end, go along, with a foot on each side, turn the heels inwards, and the toes outwards; rub the feet lightly on the surface, and see how nicely the soil, pulverized in this way, will fall into the drill, and how evenly the seeds will be covered; and my word for it, if you are not wedded to old prejudices, or have any mechanical idea to guide you in the operation, you will never use a rake again for the same purpose. This is far better than drawing the rougher, and, often, through bad spade work, hard lumps upon delicate seeds, part of which are weighed down so much that they are prevented from ever rising above ground, and others left exposed to the atmosphere and drying winds. Thus many an honest seedsman is very unjustly blamed for selling bad seeds when the fault has been in this ignorant procedure. In this particular case a small portion of ground is sufficient for each succession; consequently, it should be forecasted so as not to make this take the position of a permanent summer crop, but make use of the outside borders, or those pieces which can be again filled up with some article to succeed on the same spot, or has been before occupied by some transient production. A little reflection will render

plain to any ordinary mind what is here meant, and attention to the matter will prevent the garden from presenting ugly vacancies. For the first sowing choose a warm situation, and when the young plants have advanced three or four leaves thin out to six or eight inches, after which give a good and deep hoeing, and keep clear of weeds with the same instrument as they advance in growth. The following are amongst the best varieties in cultivation :—

Extra Early Turnip, or Bassano.—The earliest of all beets. Flavor, sweet and good. Texture, crisp and tender. Color, yellowish pink, striped transversely.

Early Blood Turnip.—The best for all purposes after the first sowing, where the turnip-rooted form is preferred. Flavor, good. Texture, solid and crisp. Color, light blood crimson.

Long Smooth Blood.—If a large, long, and well-formed root is preferred, this is the kind ; but there is no advantage, excepting quantity, in a large beet for the table. Flavor, good. Texture, solid and coarse-grained. Color, dark crimson.

Whaite's Dwarf Dark Blood, or London Dwarf Blood.—As a long beet, this is decidedly the best, although it will not produce the same weight, on a given space, as the last described. Flavor, sweet and nutty. Texture, crisp and tender, even to maturity. Color, blackish crimson, both root and leaves. This variety ought always to be grown, in preference to all others, where coloring is required for confectionary, &c., and it makes a most beautiful pickle. When true, it is of small size and dwarf habit.

Silver, or Sea Kale.—This is fibrous rooted, and the serviceable parts are the leaves, which, if cooked in the same manner as spinach, make a very good accompaniment on the dinner-table. Or the stalks may be stripped and boiled like asparagus, when they are very little inferior to that esteemed vegetable. It is, however, tender, and will not bear much frost nor wet ; consequently, when desirable to have it in the winter, the seeds should be sown in a suitable place about the middle of June, so that a frame may be covered over when frost is expected. In this way we obtain another to our, at present, meagre supply of fresh vegetables through the winter season.

Green-Leaved.—Another fibrous rooted sort, and only serviceable for flavoring soups, to which the leaves impart a sweetish pleasant taste. This is considerably harder than the last. The seeds may be sown early in spring, and a supply of leaves will be furnished throughout the season.

Beets are soon injured by frost, which renders it necessary to house them in due time. When taking them up for this purpose choose a dry day, and do not bruise them nor break the lower top roots off more than can be avoided ; cut the leaves to within an inch of the crown, but not through it ; reserve the central tuft *entire*, as the juices and coloring matter are subject to ooze out from the wounds, thereby causing the bulbs to shrivel and deteriorate in quality. For the same reason they ought to be boiled *entire* and peeled afterwards. The quantity required up to the latter part of winter may be put up into barrels and kept covered with straw in a cool but frost-proof cellar ; or the lower ends covered with sand, or earth, in a similar place ; and the remaining portion should be kept in a heap outside, in the same way as recommended for turnips in the September number.

To save Seed.—Choose those roots that are perfectly true to character, of good form and color ; plant out when all danger of frost is over, eighteen inches apart, with the top level to the surface, and do not put any two kinds in the same vicinity, as the progeny would be more or less mixed up by cross fertilization.

DELAWARE GRAPE.*

Two years ago, we gave expression to the opinion that this country was on the eve of attaining much better hardy grapes than we then possessed. This has come sooner than was anticipated, and in a different way, not so much by hybridization as by accident. The Rebecca and Delaware have both originated in the same way; they may be said to have been accidental discoveries. The efforts of the hybridizer have yet to be heard from.

Mr. C. Downing gives the report of the origin of the Delaware from the opinion of Mr. A. Thompson, of Delaware, Ohio, thus: "That it was an accidental seedling, as it is free from mildew, never prematurely losing its leaves, and seeming to luxuriate in our climate, which cannot be said of any foreign variety with which we are acquainted.

"Bunch, small, very compact, and generally shouldered. Berries, smallish, round when not compressed. Skin, thin, of a beautiful light-red or flesh color, very translucent, passing to a wine color by long keeping. It is without hardness or acidity in its pulp, exceedingly sweet, but sprightly, vinous, and aromatic. * * It is a vigorous grower, an early and profuse bearer, and probably more hardy than Isabella or Catawba. In the garden of Mr. Thompson, where all other kinds were nearly destroyed by the unprecedented cold of 1855 and 1856, this alone was uninjured. It ripens nearly or quite three weeks before the Isabella. Its bunches and berries are very greatly increased in size by high culture."

This is a high character; probably not too high. Our artist has drawn the accompanying figure from the largest and most shouldered bunch forwarded to us by Mr. George W. Campbell, of Delaware, Ohio. Mr. Campbell remarks that this bunch was not fully colored—perhaps not *quite* ripe—having grown partially in the shade. He also finds the vines free from mildew, more hardy than the Isabella, Catawba, or Diana, and he, too, believes it to be an accidental seedling.

The vine is not so vigorous in its growth, especially while young, as the Isabella or Catawba, but more so than the Rebecca; it makes new shoots of fifteen or twenty feet in length, and a vine of Mr. Campbell's ripened one hundred bunches in its fourth year.

Mr. Henry C. Noble, of Columbus, Ohio, writes thus respecting the Delaware:—

"COLUMBUS, Ohio, Nov. 3, 1857.

"EDITOR HORTICULTURIST: In your November number, you speak justly in high praise of the 'Delaware Grape,' yet, for a proper appreciation of its peculiarities, a few notes from experience may not be out of place. In the spring of 1854, I procured a vine from Mr. Thompson, of Delaware, Ohio (the gentleman who introduced it into notice), and planted it with great care. The first season it grew about *twelve inches*. It is a peculiarity of this variety worthy of notice, that no treatment will make it grow rapidly the first season after transplanting; and sometimes it grows quite slowly for several years. It may be as well, in this connection, to speak of the difficulties of propagating it. It will not be a favorite of nurserymen. Out of thirty cuttings set out last spring, under the most favorable circumstances, but five or six grew at all, and none of these made more than a few leaves of growth. Such plants are too weak to endure severe weather. The true way to propagate this variety is by layering. The layers become stout and good the second year.

"To return to my experience. The second year, my vine produced two fine, healthy shoots, about ten feet long. These ripened their wood early and well, notwithstanding the season was very wet. The succeeding winter (1855-6) was very severe here (24° below zero), but the cold only destroyed a few buds about the centre of the vine. My Catawbas and Isabellas, in the same yard, and more protected, were very seriously damaged. The third year, one branch was layered, and the other trained for fruit. The layer produced six

* See Frontispiece.

good shoots; the other branch grew very well, and produced a few grapes. This, the fourth year, the vine produced a beautiful crop of grapes, most of the fruit spurs having three, and some four perfect bunches. We gathered a hundred bunches from the one vine, some of which were finely shouldered, and as firm as 'Miller's Burgundy,' and looked as if chiselled from amber. They were exhibited at our 'county fair,' and distributed among the 'diggers,' and pronounced 'very best.' The flavor is much better when freshly gathered than after a few days' keeping. The wood, last winter, did not suffer a particle, even at the slenderest ends of the shoots, although the thermometer was again about 20° below zero. Here, where we have a good horticultural society, and think we know something about fruit, we consider the Delaware Grape the best table grape for out-door culture we have ever had (the Rebecca has not yet reached us), and unhesitatingly pronounce it *perfectly hardy*. It is a little discouraging to start, but when obtained, it fully pays for all one's care and patience. *There are no vines here to sell, and it is in great demand.*

Respectfully,

H. C. NOBLE."

We have a valuable communication from Mr. Samuel Miller, of Calmdale, Pa., respecting some other important additions to our stock of new and hardy grapes, which shall appear in January.

HYBRIDIZING GRAPES.

BY A PRACTICAL GARDENER, BOSTON, MASS.

IN Mr. W. N. White's interesting report on the grapes of Georgia, I notice the following sentence: "We would not, however, assert that hybridization, naturally or artificially, is absolutely impossible, but nearly so, &c." So excellent a botanist as Le Conte is also quoted, as doubting the possibility of hybridization ever occurring in the genus *Vitis*. At first reading, I was rather surprised to find such opinions recorded by such authorities, as hybridization is an everyday occurrence amongst practical grape growers. In early forcing it is often very difficult to get the various kinds of Muscats to set their fruit properly, owing to their stamens proving abortive; this they usually remedy by impregnating the flowers with the pollen of any other grape they may have in bloom at the time, and in that case generally get a pretty full crop of fruit. This, of course, is all that is required to hybridize a grape; and if it were desired to hybridize any variety artificially, all that would be necessary would be to destroy the stamens before the pollen had matured; even though the petals had to be destroyed to get to them, the essential organs of reproduction would not be injured thereby. The cohering of the petals when they exist are no doubt a bar to natural hybridization; but I have no doubt that the petals are occasionally abortive in a natural state, as I have already stated the stamens are in an artificial one. Many plants are now known to be polygamous that botanists have been in the habit of considering to bear perfect flowers in all cases; and as the grape-vine is certainly so at times under artificial treatment, there may be circumstances arise in a natural state sufficient to induce it to change its sexual character there also, and to explain many things which otherwise seem improbable.

It is rather startling, after we have heard so much of the valuable hybrids of Mr. J. F. Allen, of Salem, and others, now to be told that such hybrids are impossible.

In another part of the same number of the *Horticulturist*, another writer recommends to hybridize the native with the foreign grape in order to improve it. This is well worth trial, though it may not succeed; for, though there is nothing in the structure of the flower to prevent the attempt, which may not be overcome by artificial means, yet there may be physiological peculiarities which often forbid the intermixture of as closely allied plants as the different species of grapes.

DIOSCOREA BATATAS.

BY WILLIAM F. FALL, CLARKSVILLE, TENNESSEE.

I WISH to present to the readers of the *Horticulturist* my efforts in the culture of the Chinese Yam. I obtained from Messrs. Prince & Co., last spring, twenty tubers, for which I paid *five dollars*. I selected most excellent soil and position, and have cultivated carefully—indeed, I bestowed more than ordinary attention, sifting the earth, &c. &c. They have had what I should say a fair chance. The *most vigorous* of the *vines* do not exceed three feet in length, and are of the most delicate character. As to the *Dioscorea batatas*, or Chinese Yam (what a name for nothing!), upon examining, I could only find some *strings*, none of them larger than an ordinary pipe stem. I determined to let them remain in the ground, with a view of testing their value another season. New items are often prematurely extolled, and the few realize enormously at the expense of the confiding. I view it as one of the most worthless esculents I ever attempted to cultivate; and the idea given so much currency to by Messrs. Prince & Co., that it is destined to equal in value the cotton crop of these United States, *to me* seems superlatively hazardous, to say the least of it. I would not this moment pay Messrs. P. & Co. one hundred and eighty cents for their 180,000 tubers to propagate *in this latitude*. The gentlemen speak with more than ordinary confidence, and base their statements upon the *result of their culture in France*. It is difficult for us to ascertain truly their success in that distant land; *we would rather hear from those engaged in our midst* in its culture than from those not particularly interested in "*realizing millions as its first propagators*." If it is that estimable esculent, "the greatest boon ever given by God to man," I say, let us have it. We hope, therefore, the one thousand persons supplied by P. & Co. will, from every section of the Union, give their experience. We shall then know what latitude it best suits.

MILDEW ON THE GOOSEBERRY.

BY AN ENGLISH GARDENER.

SIR: I am not well used to writing, and would any time prefer to use the spade instead of the pen; but I think it is a duty we all owe to each other to communicate any facts we know in return for those we receive through your valuable journal. In a late number, Mr. W. Bacon gives his experience with the Gooseberry. He instances a case where a bush suffered to become choked by weeds, escaped from the mildew which formerly attacked it. I have had experience so very like his for the past three years, that I am sure it will please him to find his opinions so nearly confirmed; and perhaps others may derive a hint, by which the difficulties which surround the cultivation of this indispensable fruit may be removed.

Three years ago, our little place was bought from a small farmer, or "truckman" (as we call them here in our town), for a country residence. Along a line fence were many native gooseberry bushes, which I have always supposed to be the Houghton's Seedling of the nursery catalogues. This fence being very old and unsightly, I proposed to my employer to have Chinese arbor-vitæ planted against it. She consented only on condition that I should not destroy the gooseberry bushes. It was hard to get the arbor-vitæ stuck in between, in some places, the gooseberry plants were so thick; but it was done at length. The ground was

so full of the creeping roots of blue grass, that I never expected the plants to be of any further use than of pleasing the lady by their existence; but, to my surprise, they have borne, the past three years, enormous crops, though quite smothered by grass and the arbor-vitæ, and without any pruning or attention of any kind. I did not, it is true, ever think that they were free from mildew through this smothering up; for until I read Mr. Bacon's remark, I always thought this kind never mildewed; but I certainly did think this neglect every way suited to it. My own idea is, that the English varieties are much more liable to mildew than any other kind, at any rate. I think all smooth, glossy-leaved plants more liable to mildew than others. The foreign grape, with its tender skin, easily mildews, while the rough, coarse-foliaged native is nearly exempt. In my experience as a gardener, I have noticed that cold draughts in a vinery are nearly certain to breed mildew, or sudden changes of any kind. I am no botanist, and am unable to say whether the mildew on the gooseberry and that on the vine are of the same nature; but I suppose the effect is the same—that is, that sudden changes of some kind injure the tissue, which mildew is then able to exist upon. If this supposition is correct, the reason is plain why a gooseberry imbedded in weeds is not so liable to mildew. The weeds protect the plant from the sudden changes that cause mildew. I have prevented mildew in some cases, to some extent, by scattering a little salt under the gooseberry bushes. I have noticed that the disease usually makes its appearance after a very dry day; and as, in Mr. Downing's article in your late number, it is stated that "salt helps all dry soils amazingly, giving them greater attractions for moisture, and greater power to hold it in dry weather," this still confirms the idea that anything that will guard the gooseberry from sudden changes, will help to protect it from mildew.

I am but a plain, practical man, and can make no pretension to fine writing; but if you think these lines of any service, I should be glad for you to print them.

[Our friend has our thanks for his sensible communication. It is the "plain, practical men" who, with the many sources of information daily before them, and with the powers of observation such as our correspondent possesses, are the most capable of rendering the greatest service to practical gardening. We commend our correspondent's remarks to the attention of unsuccessful gooseberry growers.—ED.]

THE CRACKING OF THE PEAR.

BY WM. TOMPKINS, GERMANTOWN, N. Y.

MR. EDITOR: Permit me, through your valuable journal, for the benefit of your correspondent "Terra," and others, to give my experience with the so-called "Butter Pear." From the description that he gives of it, I presume he means the pear here known as White Doyenné, or Virgalieu. In this particular locality, it formerly was productive, and highly esteemed, till about the year 1849; in other places not many miles distant, it has been known to crack for a quarter of a century, or longer. About ten years since, I embarked in pear culture. As my soil seemed to be well adapted to this fruit, I planted the Doyenné quite extensively. A lot of old trees on my farm at that time, made an annual dividend of noble fruit, which always sold at a high price. Not many years after this, to my no small mortification, I discovered unmistakable signs in my orchard of the disease which had proved so troublesome elsewhere. At first, it was confined to trees in a weak or neglected condition, but it kept on increasing, year after year, till finally it overran the whole orchard. Downing and others, at that time, supposed that

the cracking of the fruit was owing to some deficiency of mineral manures in the soil, and various things were recommended to renovate this pear, of which I tried lime, bone dust, wood ashes, potash, &c., all to no purpose, and finally abandoned its culture. You perhaps would ask, did I "dig out" my trees? By no means. By reading the *Horticulturist*, I learned that the Bartlett was noted everywhere for its productiveness, superior quality, and total exemption from the disease which is so ruinous to the "Doyenné." I resolved to work them all with "Bartletts." The old trees were cleft grafted, and the young ones carefully budded in the leading branches, and this season they bore an abundant crop of noble pears, from which I have realized a nice sum of money. Friend "Terra" says he went into "pear culture enthusiastically," from which I infer that he planted them in the best manner, and gave them the best of care. He says they commenced bearing "six years ago." They were probably planted six years previous to their fruiting, which would make them now twelve years old.

In my mind's eye, I picture to myself his trees as fine, healthy fellows, with smooth bark, branching out within three feet of the ground, and large enough to produce a bushel of pears each.

Friend "Terra," if you value time, stay your hand; don't destroy the pets that you have been twelve years rearing, when, in so short a period, you can convert them into some other variety which is noted for its exemption from the disease that has been so disastrous to your most cherished hopes. Many of my trees that have been worked only three years, have borne abundantly this season.

An unusual scarcity of apples prevails throughout the eastern portion of this State. Currants, strawberries, pears, raspberries, and grapes, have been abundant.

SOME HINTS FOR FARMING AND GARDENING, FURNISHED TO A SON WHEN HE "SET-UP" FOR HIM- SELF.

BY FIGARO.

ALWAYS cultivate with your eyes turned towards the nearest market. This ought to be the first rule for a farmer, for, without *conveniences* to sell your products at fair prices, and to get your manures easily and cheap, farming will not pay well, if it pays at all.

"*Rise early in the morning*," and have your eye on everything. A good start is worth many an hour of labor through the day.

Be your own overseer and foreman. You are no longer an independent man as soon as there is some *indispensable* individual upon your farm. . . . Be ready to part with the best, and to take his place. That will do away with exactions and impertinence.

Be kind, just, and fair, in dealing with your hands; but . . . "keep up your hedges." In other words, don't let others interfere with your authority.

Let *order* be "the *farm's* first law." Disorder and neglect are very expensive.

Have your cattle gently treated; you will save many a valuable animal, and prevent many a sad accident.

Take care of all tools, and have the best ones; they are the cheapest after all.

Don't neglect good advice, but do not accept them readily from every one; and chiefly do not *consult* your helps; you are sure to *spoil* them. Keep up your authority, anyhow.

Keep a ledger of expenses and profits, and again, "*Rise early in the morning*."

EDITORS TABLE.

NOTICE.—We shall esteem it an especial favor if letters and papers intended for the editor, are always addressed to him at Germantown (Philadelphia), Pennsylvania.

JAMES D. FULTON, one of the ablest nurserymen, who died suddenly within a few weeks, has left a reputation for sterling integrity. We shall insert an obituary of him in January.

THE PACKING BOOK.—In the business part of a periodical, circulating from Canada to California, sending after small sums involves the destruction of the work; on such a plan, the *Horticulturist* would entirely be broken up. With the knowledge of this before them, the several publishers have been compelled to adopt the plan of throwing aside the packing book at the end of each year, and of opening a new one as subscribers indicated their wishes. This plan it is necessary to pursue; with the present number almost all subscriptions cease, and renewals are hoped for. If, in this process, any one feels slighted, the publisher will regret it as much as the reader, and we hope to hear that no such case has occurred. If all will communicate their wishes fully and freely, we shall have another year's pleasant chat with our old readers, not one of whom will it be agreeable to part from.

We trust all will give notice of deficiencies or omissions of every kind.

CLOSE OF THE VOLUME.—We close the twelfth volume of the *Horticulturist* with some feelings of satisfaction at its success, with others of regret. It has pursued its way, the past year, with the usual endeavor on the part of its proprietor, editor, and contributors, to make it readable and useful; the best evidences that it has the approval of its friends, have been received in a continued flow of new patrons, no less than its cordial reception by thousands of older readers, who have marked their friendship by successful endeavors to introduce it among their neighbors. The regret is founded upon the altered condition of the times, which has thrown many out of employment, and doubtless has interfered with the pecuniary means of some who peruse our varied pages, and to whom we shall have something to say in our next volume.

This regret is softened, however, by remembering that our subscribers are mostly independent residents of the country, who, if they have suffered by the times, have done so in a less degree than citizens. If the former have lost some of their resources, they have remaining their acres for future tillage—their trees for future fruit—their gardens and nurseries for certain returns. The storm which blew over our commercial emporiums, though of human creation, may be likened to a sudden hurricane, the portents of which were visible, but unheeded; the wind breaking the glass of storekeepers, awnings smashing neighbor's heads, and the rain pouring in everywhere, to ruin and destroy the merchandise. Losses too great to be enumerated, fell heavily upon all densely crowded populations; but "the country is safe," prices are still highly remunerative, and we may safely congratulate most members of our country community upon their condition and prospects.

And yet, such is the sympathy of all classes with the panic-stricken commercial world,

that the utter ruin of very many periodical publications not founded on the wants or the affections of the public, may be anticipated. We predict the reverse for the *Horticulturist*. Its friends must be increased by the events just transpired. Thousands who sought in cities the means of existence, will now claim the blessings which country life bestows. Leaving the counting-house or the store, they will turn to cultivating the earth, and, we trust, will find in this original and natural employment of man, consolation for misfortunes which periodically cross the path of the merchant. There are enough inhabitants of cities left to create a permanent demand for all species of wholesome and attractive food. Fruits, large and small, are a necessity inadequately supplied—always scarce and dear. The *Horticulturist* is continually recording large profits from apples, pears, peaches, strawberries, raspberries, and vegetable culture; their producers have small rents to pay in comparison with those of city storekeepers, and surely it is a more manly and intellectual occupation to till the earth, and take an interest in studying and assisting nature, than to be the slave of thoughts devoted to ribbons and yardsticks! or to pass anxious days and nights in betting on stocks, as if any set of people could ever grow rich by such a process!

It cannot be too often repeated that the tendency of our people is too much given to non-producing employments. Ease of body is sought before cheerfulness of mind. Sedentary occupations are not so healthful as those in the open air; if statistics are to be believed, it is residents of the country who enjoy the greatest amount of physical health. Cities notoriously depreciate even the human stature. An attentive observer for forty years, may safely say that in cities families rapidly run out and disappear; the only permanent names are the land owners. Strange as it may sound, this is as evidently the story in America as in thickly settled Europe. Let it be the family policy for generation after generation to hold on to their land, never to risk its sale, to keep it under proper tillage, or even to grow timber on it judiciously, and the property remains; the family name is there, the means of livelihood and education are at hand. Sell the land, go to the city, invest in convertible goods, and in more than nine cases in ten the money disappears, if not in the first, in the second generation.

These reflections might be enforced by thousands and ten thousands of instances, but we feel no necessity for doing so; our readers are no doubt convinced; and with a few remarks suggested by an inspection of the last year's pages of this work, we consign it, with all its imperfections, to the criticism of its numerous readers.

The index-maker surrendered his annoying operation by calling our attention to the table of contents, which he says "embraces such a vast variety of interesting topics as perfectly to astonish me. I have made many indexes, but have rarely met with so many subjects illustrated in a single volume. I am no horticulturist myself, but I am greatly mistaken if these pages do not embrace most of the subjects which can interest the lover of the garden." Our "indexer" is mistaken; the topics of interest to the lover of nature are endless; we are but beginning to enumerate them. Take the subject of vegetable growth, for instance. Look at fruit culture, landscape gardening! Try to ascertain what is best to do or to plant in new and untried circumstances; endeavor to show practically to what your soil is specially adapted. In fine, study a little whether it be gardening or botany, and you will arrive at that very desirable point of knowledge, *that we know almost nothing*.

We have a word, in conclusion, to say for ourselves. The time employed on this work has soothed many hours of anguish, when the mind was unfit for social intercourse; this condition of health will account for many deficiencies. The amusement and enjoyment afforded by occupation, and the sympathy in tastes of many old and new friends and correspondents, have been ample compensation for sometimes weary labor.

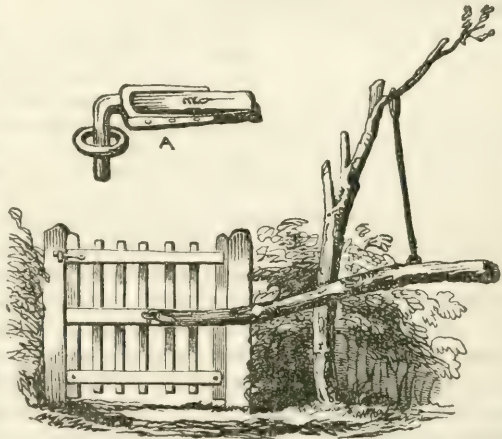
The work has had the most successful twelvemonth that its existence can record. It has varied its topics, we trust, agreeably to the reader. A more southern latitude than had

heretofore been described in its pages, has engaged attention from the oft-recurring topics of the North. Biographical sketches of interesting personages connected with our subjects, have enlivened its pages; new correspondents have taken up the discussion of matters of the deepest interest to all who reside on their lands, and though sensible of its many shortcomings, approbation has made our labor sweet.

For the ensuing numbers, we are prepared with many things calculated to gratify the thirst for knowledge, and are happy to say we have enlisted numerous co-laborers, on whose information and experience our public is accustomed to rely.

THE OLD DIGGER.—As promised in the early part of this volume, the whole of the articles written by the late A. J. Downing, and signed "An Old Digger," have now appeared in the months for which they were originally written. At the time of their appearance, it was not known who wrote them, and in the collected edition of his works, after the author's death, they were not included; there was a propriety, therefore, in reprinting the series here as soon as it was ascertained that they came from so distinguished a pen. If this had not been the case, their general excellence and practical character, coupled with the circumstance that a very large proportion of our present readers did not possess the volumes containing them, made their reproduction important. They are now finished, and we enter upon a new year untrammelled by "continuations," and with much confidence in our various correspondents, and some hope that the experience gained in our two years and a half labors will conspire together to make the pages of the *Horticulturist* at least as valuable as heretofore.

A GATE FASTENER.—In a field leading to the Tors, at this place, is a gate which opens into the grounds of Mr. Shepperson's pretty Tor Cottage. All sorts of contrivances for keeping it ~~shut~~ having been tried in vain, the following simple and effectual plan was hit upon: An iron loop was driven into the middle cross rail of the gate; a rope was cast over the branch of a neighboring tree. A rough pole was then fitted at one end, with a staple long enough to work in the iron loop of the gate without jumping out when jarred. To this pole the rope was fixed at such a distance from the other end that, when suspended, and its staple dropped into the iron loop, the rope and pole would remain oblique when the gate was shut. The accompanying sketch explains this. When the gate was open, the pole was at the same time pushed back, but as soon as a person had passed through, the weight of the pole acting upon the middle of the gate closed it again, and as the pole swung freely on the rope, this could never fail to happen. The Fig. A shows how the staple and iron loop fitted together.—JAEI, Ilfracombe, in *Gardener's Chronicle*.



To the two Michauxs (father and son), chiefly, are the French plantations indebted for their surpassingly rich collections of American trees and shrubs, which long since gave rise to the remark that an American must visit France to see the productions of his native

forests. When shall it be said that the statement is no longer true? When shall we be able to point to a complete, or even a respectable American collection of our indigenous trees and shrubs?

Gossip.—Fifty specimens of a good flowering plant, when put together, will give more effect when in bloom than fifty varieties of the best flowering plants in the world; and one kind of annual will have more effect in a planted "bedding" flower-bed than two, three, or more kinds. A rose-bed, consisting entirely of one variety—say *Souvenir de Malmaison*—is more effective than a heterogeneous mixture.—All the China Asters, now so beautiful and improved, will come in a month earlier, if sown in the autumn. Another sowing of them in the open border by the end of April, and a third in May, will save all the bother of raising them in hotbeds. *Clarkias*, *Collinsia bicolor*, *Gilia tricolor*, and the spotted *Nemophilas*, should be twice transplanted; the sweet *Alyssum* is also best from an autumn sowing; *Oxalis Bowei*, when treated as a window plant, will bloom best in the late summer and autumn months. As soon as the flowering is over, lessen water, but give a little so long as the leaves are green. In potting afresh, place from eight to twelve strong bulbs, about three inches or so from the surface, in a six or eight-inch pot. *Passiflora carulea* is hardy at Philadelphia, and should be planted for balconies in fibry loam and sandy peat. Once established, it should be pruned close back to within a bud or two of the main stems every winter.—Sir Joseph Paxton, of Crystal Palace celebrity, commenced life as a gardener; and the best mathematician at King's College, Aberdeen, at this time, is a man who part of the year works in agriculture, and during the other part studies in college. Seek, then, to inscribe your name in that golden record of self-made men, a place in which none of us can inherit, but all may aspire to attain. First of all, you must have self-reliance, dependence on your own powers, to achieve your own independence. The next step is industry; "the diligent hand maketh rich":—

"Round swings the hammer of industry,
Quickly the sharp chisel rings,
And the heart of the toiler has throbbings
That stir not the bosom of kings.

"He the true ruler and conqueror,
He the true king of his race,
Who nerveth his arm for life's combat,
And looks the strong world in the face."

—John Wesley, in his sermon on the use of money, says: "Make all you can—save all you can—give all you can. You must also have temperance. Intemperance, like improvidence, is one of the evil eyes which look upon the labor of this country, and is not only the father of that cruel wolf which seeks admittance to the poor man's hearth, viz., want, but is the destroyer of a man's own self-respect, comfort, and respectability. You must likewise possess integrity of heart both towards God and man; be just and true in all your dealings, and commend yourselves by probity of conduct alike to all around you, as to Him (who seeth not as man seeth). The last step of the ladder which, by the divine blessing, you may hope to attain, is independence."—The microscope is now so much improved as to attract attention from those least given to observation. When we see a soft snail eating a hard cabbage-leaf or carrot, if we reflect on the operation, we must conclude that it cannot be performed without the agency of teeth. The microscope shows us in the palate of a land or water snail, rows upon rows of teeth, containing, altogether, hundreds and hundreds of molars. The shark's rows of teeth are nothing to the weapons that line the mouth of the little shell-fish called a whelk—half a dozen in each row in the middle, with a *chevaux de frise* of tusks on either side. A French microscopist made quite a sensation, lately, by proving that the male itch-insect, which had been unknown before, was

never found in the furrows of the skin as the female always is. He lives on the surface of the epidermis, and being smaller, had escaped observation.—A bunch of the variety of Banana, called the St. Helena, was raised in England (under glass, of course) in 1843, weighing one hundred and thirty-three pounds. The proper minimum temperature for the Banana, is from 60° to 65° in winter, in summer from 65° to 70°, and the maximum 75° to 85°, giving air on favorable occasions, keeping up a moist atmosphere, and using liquid manure occasionally.—Ammoniacal gas-water poured into the runs and haunts of ants, is a certain destroyer.—A mushroom will lift a heavy stone by its force of growth; considering that it is of a weak structure, and with a shallow root, it is a puzzling question *how* it does this.—If by any chance you happen to have a bad plant, destroy it; do not give it away. A taste for flowers is likely to prevent a taste for sinful pleasures; we ought therefore to give away freely of the best we can spare. Were the flowers of the world to be taken away, they would leave a blank in the creation. Imagination cannot suggest a substitute for them. Be grateful for the gift of flowers.—The English railroads maintain an army of 100,000 employees, officers included: four tons of coal, and twenty tons of water, are *flushed into steam every minute* throughout the year! Twenty-six millions of "sleepers" were employed on the original construction of the English roads; they disappear at the rate of two millions a year. To provide these alone, requires the felling of 300,000 trees annually; 5,000 acres of forest must be yearly cleared to provide the necessary quantity. If these figures were tried for America, they would be more than doubled.—Some time since, a correspondent of the *Boston Cultivator* recommended potash for the rats, which troubled him very much, so that he felt justified in resorting to extreme measures to effect their expulsion from his premises. He pounded up potash, and strewed it around their holes, and rubbed some under the board and on the sides where they came through. The next night he heard a squealing among them, which he supposed was from the caustic nature of the potash that got among their hair, or on their bare feet. They disappeared, and for a long time he was exempt from any further annoyance.

ANSWERS TO CORRESPONDENTS.—(OMEGA). Lettuces and radishes do not come hard except on wretchedly poor land, or on very ill-cultivated ground. Ridge up a border for them this winter, and put three inches of quite rotten dung all over it. After the first frost, dig it deep, and *mix* the dung well among the soil. When the surface is very dry in March, put two inches of rotten tan, or a good sprinkling of salt, all over it, stir the surface, and sow.

FRUIT STAINS.—To remove these, hold the cloth tightly over some vessel, and pour boiling water through it, and most kinds will quickly disappear.

BERBERIS AQUIFOLIA, once sold at a guinea an inch, may be propagated in the open air, from cuttings of one joint of the last year's growth.

MEAD.—This old-fashioned and by no means despicable beverage, is thus made: Use four pounds of honey to every gallon of water; if a dry mead, only three pounds. Boil gently for an hour, skimming carefully; cool until milk-warm (75°), in an open tub. If four gallons are made, add half a tea-cupful of yeast spread upon a toast. In two or three days the fermentation will cease; then barrel and treat like other home-made wine. If made in September, it should be bright by the end of March; it may then be racked off into a clean cask, and bunged down again. By September, it will be fit for bottling. It is useless to hope for good mead merely from refuse honey, or the washings of the combs.

(ISAAC DILLON, Zanesville, O.). We think your difficulty in the names of the apples sent will be cleared up, by leaving out "American," in your *Golden Russet*, your specimens of which were very fine, and naming the other "*American Golden Russet*," or *Little Pearmain*, one of its synonymes. The "*Sweet Paradise*" apple, is unknown here, and we should not

value it very highly. The "Stockdale Sweeting" bakes well; we know of nothing approximating to it.

(H. A. TERRY, Crescent City, Iowa). The seed pods you sent are those of the bladder-nut, *Staphylea trifoliata*, widely spread over most of the Northern, Middle, and Southern States, and a valuable garden shrub or small tree.

(A. A. HULL, Forest Hill.) 1. There is danger of your trees being injured by mice. Consult the volumes of the *Horticulturist*, by index. 2. We esteem it a barbarous custom to whitewash trees as a rule. 3. Sow hickory-nuts as soon as gathered, if there is no danger from vermin; if there is, defer it till February. Deposit the seed in drills two feet apart, the seeds at from three to six inches apart. Shorten the tap-root once a year; cut the head of the tree entirely off after transplantation, and before the sap begins to rise, leaving only a main stem; dress the wound, and they will throw out shoots of great vigor the first year, and these being thinned out or rubbed off, the remainder soon form a head.

(JAMES JACKSON, Boston). We do not consider the Concord Grape equal in quality to the Isabella; unless it be that it ripens better at the North, it has not equal merit. It proved very *foxy* here.

CATALOGUES, ETC., RECEIVED.—The Illustrated Annual Register of Rural Affairs for 1858. Albany: Luther Tucker & Son. Excellent as usual, and deserving a large circulation. As compared with the silly old almanacs, made merely to sell old rags, it is an astonishing advance. The publishers have also combined the Annual Register for the three previous years into one volume, which makes a most portly and valuable publication, full of cuts and facts.

Mr. Joseph Harris, of the Genesee Farmer, also issues this year another of his *Rural Annual*, quite as excellent as the former, and promising to become a permanent favorite; it shows great industry in the editor's department. See advertisement.

Address before the Essex Agricultural Society, on "Home, and its Embellishments." By E. G. Kelly, M. D. A theme worthy of a great pen.

Descriptive Catalogue of Fruits, cultivated and for sale by John R. Stanford, at Pomona Hall Nursery, Clarkesville, Habersham County, Georgia, which State promises to be one of our best fruit gardens. Mr. Stanford's catalogue deserves attention.

Address at the Dedication of the Agricultural College of the State of Michigan. By Joseph R. Williams, President. Sound, and full of information.

Mr. Kelly & Co.'s Abridged Catalogue of Trees and Plants, for the autumn of 1857 and spring of 1858. Cincinnati, Ohio.

Trade List of Evergreens, Fruit-Trees, Stocks, &c., for 1857-8, for sale by John Saul, Washington, D. C.

Complete Set of the Catalogues of A. Frost & Co., Rochester, N. Y., containing most articles known to the trade. These make quite an octavo volume, and are additional evidence of the industry and intelligence in horticultural matters that are accumulating daily around us.

Descriptive Catalogue of Fruits, cultivated and for sale at the Mount Hope Nurseries, Rochester, N. Y. Ellwanger & Barry, Proprietors.

Descriptive Catalogue of Hardy Ornamental Trees, Shrubs, Roses, &c. Ellwanger & Barry, Rochester, N. Y.

Special Select Catalogue of Extra Large Fruit-Trees in a bearing state, and of Ornamental Trees and Shrubs, &c. W. R. Prince & Co., Flushing, near New York.

Catalogue of Fruit and Ornamental Trees, &c., cultivated and for sale by Peters, Harnden & Co., Atlanta, Ga. This is one of the oldest established nurseries in the South, and there

has been added to it lately upwards of 200 acres, embracing extensive orchards and vineyards for testing fruits.

The Cincinnati Cemetery, of Spring Grove. Report for 1857. A very handsome octavo volume, with excellent illustrations of tasteful monuments. We see in it the hands of two of our valued friends, R. Buchanan and A. H. Ernst, Esqs., to the latter of whom we are indebted for the work.

Dr. John A. Warder, President of the Cincinnati Horticultural Society, announces a book on fruits in preparation.

PREMIUMS.—We perceive, by a local paper, that two of our friends and contributors have been carrying off the honors at the Clinton (New York) Agricultural Fair. The Rev. A. D. Gridley received a premium for Seckel Pears, for the best two varieties of grapes, and for the best and greatest variety raised in the open air. Prof. Edward North was likewise distinguished, by receiving premiums for the best six varieties of Fall Pears, and for the best Louise Bonne de Jersey. We like to record the success of our contributors, and in this case have a strong suspicion, not only that the recipients thought of their (acknowledged) tutor, the *Horticulturist*, but that the Professor would have taken a large addition of premiums, if his merit had not thrust upon him the duties of a judge! We shall expect, in a few years more, at least a basketful of delicacies from these rare amateurs!!

BULBS.—There have been remarkably fine importations of bulbous roots, this season, and in greater variety than usual. Those from the establishment of A. Bridgeman, 876 and 878 Broadway, New York, seem to us larger and heavier than it is common to see, and in finer condition. See advertisement.

G. C. Thorburn & Co., of 53 Cortland Street, and Newark, N. J., have also shown the excellence of their foreign agent in this particular, the present year, and have imported an extraordinary lot of various bulbs, which, we trust, our readers saw the list of last month. Among them they must have observed many scarce articles, and, especially, the *Lilium giganteum*, which so few have yet seen in bloom. It is *only* \$8 a bulb.

HOW TO REMIT.—Procure a draft, if possible; if not, send notes; but let it be a matter known only to yourself; the fewer you let into the secret, the more certainty there is of your money coming to hand. Do not register your letters, as this at once informs everybody that money is in your letter. If you send gold dollars, secure them carefully in the letter; otherwise, they are apt to work out of the envelop. Stamps over three cents are only taken for the fractional parts of a dollar. Be careful and pay the postage on your letter, and direct it to Robert Pearsall Smith, Philadelphia.

Calendar of Operations.

DECEMBER.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

PRUNING the vine, and preparing the cuttings for sale, may be done in any moderate weather this month. As directed in a former article, the two best canes or branches of the young wood are selected, and the lower down on the spur or the bow the better; one is cut down to two joints, as the spur, the other to eight to twelve joints, to form the bow. This spur and bow are to bear the crop next year; all the rest of the vine above them is cut away.

The wood or branches cut from the vine are taken into a house or shed, and in the even-

ings or unfavorable weather for out-door work, are cut into lengths of twenty to twenty-four inch cuttings, for planting in the vineyard or nursery in the spring. None but well ripened, sound branches are used for cuttings; the immature and weak branches are thrown away, or used to stop the washing in small ravines. If part of the old wood can be left on the cutting, it will strike root with greater certainty. The cuttings are tied up with willow twigs, in bundles of one hundred, and kept in a cool, damp cellar, or set on end in the ground, and buried to near the tops, until wanted for transportation to market. If intended for planting in the spring, bury them all over in the earth, laying the bundle on their sides. The purchaser of cuttings should do so at once, to keep them sound and fresh. In this month, stakes may be sharpened, and the lower ends slightly charred, or covered with a coating of coal-tar (if to be had), to make them last longer in the ground. Trenching for new vineyards may also be done this month, and any other work that may lessen the labors that crowd upon the vine-dresser with the opening of spring. Examine the wine weekly; look out for leaks, and keep the casks' bung full.

THE GARDEN.

BY WILLIAM SAUNDERS.

LETTUCE.—Cauliflower and other plants in frames, should be carefully aired at every favorable opportunity; unless this is properly attended to now, the plants will be likely to suffer when severe colds overtake them. Induce a hardness of constitution by keeping them dry and exposed, and do not cover up during the night until actual freezing weather. Loose straw or hay is the best of all material for covering, from the quantity of air it contains. A close-fitting canvas cover, elevated a few inches above the glass, is a very efficient protection.

Raspberries should be laid down, and covered with soil; even although they are reputed hardy varieties, they will fruit better from being thus protected. The hardness of these as well as all other plants, depends much upon the soil in which they are growing, as it hastens or retards the ripening of the wood. Strawberries should also be protected. A covering of cornstalks, shavings, tan-bark—anything that will modify the injurious effects of freezing and thawing—will be more than repaid by the increased production. Shelter is a subject which will in a few years be deemed much more important than it is at present considered.

Gooseberries and currants may be pruned now. The former fruit best on the young wood, and it has been observed that they are more exempt from mildew than when fruited on spurs. Thin out the bushes, but do not shorten back *all* the young wood indiscriminately, only where an additional quantity of wood is required. Black currants are pruned on the same principle. Red and white currants fruit on spurs from old wood; therefore, the young wood may be well cut out.

Hardy grapes may now be pruned, and, where it is practicable, they may be laid down and covered over with soil. Drying, frosty winds do much injury, frequently causing a great portion of the young wood to shrivel, and rendering the buds abortive. In preparing ground for young plantations, it is of much importance to trench thoroughly and drain, particularly when the subsoil is retentive. There is abundant evidence that the rot so prevalent in some seasons is induced by superfluous water in the soil. The Catawba will not be regularly productive in strong lands, unless they are laid dry by draining.

GRAPERY.—The outside borders should receive a covering of manure or leaves; the dryer they can be kept during winter the better it will be for the plants. If the soil is in good condition, and the plants otherwise properly managed, the leaves will have changed color, the wood matured, and the vines become deciduous. On the other hand, if the shoots have retained their leaves late, and the latter have not changed color, but have been overtaken by frost while still green, it is a sure evidence that the management is not perfect, and they will be liable to injury from a severe winter, even although partially protected. The soil is either too rich and damp, or the atmosphere has been kept too close and warm. In either case, the remedy is the same. Admit more air to the soil by drains, and ventilate more liberally, to hasten the ripening of the wood.

LAWNS.—Where it is not objectionable, on the score of neatness, lawns will be much benefited by a covering of manure. Lawns that have been imperfectly laid down in the first instance, and abound in slight inequalities of surface and coarse, turfy grass, will be greatly improved by a top dressing of soil spread thickly over, and rolled down to a smooth surface.

INDEX

A

- Abies alba* 227
Canadensis 227
Douglasii 222
excelsa 227
Menziesii 222
Morinda 222
pinsapo 257
Smithiana 222
Acacias, early blooming 375
Achimenes, treatment of 419
Ad interim reports ... 107, 140, 177
Advance of science 42
Advent of man 479
Advertisers, to 188
Advertising sheet 140
Agricultural exhibition at Louisville 475
 Fairs of 1857 526
 Society 317
 Journal 143
 Transact. of Michigan 477
Agriculture in France 442
Air plants 348
Almy, Mrs., hotel 395
Amaranthus albus 25
Amelanchier botryapium 265
American Institute 437
 plane tree 405
 Pomological Society 93
Amory, J. S., residence 67
Anatomized leaves 331
Anemone pulsatilla 98
Angelica tree 265
Angler's worms 478
Annoyances of fruit growers 165
Another step 430
Answers to correspondents 51, 101, 147, 195, 240, 286, 333, 387, 436, 484, 534, 573
Ants, destruction of 326
 to kill 571
Aponogeton distachyon 190
Apparatus for teaching science 43
Apple, a late summer 178
 Albemarle pippin 288
 best market 516
 Carpenter 366
 Carolina June 472
 Christiana 109
 Crawford keeper 149
 in Carolina 263
 Jackson 520
 Jonathan 198
 Maverack's sweet 472
 Meister 109
 Oconee greening 179
 Philip Rick 51
 prince 288
 Pryor's red 290
 Rhode Island greening 149
 Rome beauty 179
 seedling 149
 the 377
 tree borer 261
 trees 98
 grafting old 135
Apple, Yapp's favorite 179
Apples, list of 525, 526
 fall 526
Apricots 526
 in Syria 241
Aquarium 47
 fernery 281
Arago 242
Aralia japonica 388
 papyrifera 283, 294
 spinosa 265
Araucaria imbricata ... 47, 221, 363
Arboretum, Mr. Barton's 22
Arbor-vitæ, American 227
 Siberian 227
Arbutus unedo 265
Architecture, Elizabethan 49
Artesian wells, native 50
Asparagus, culture of 509
Atmosphere, the 420
Autumn, the coming 429
Aviary, a summer 319
Azalea flowers poisonous 184
 ground 46

B

- Baldwin, J. P.* 252
Banana, soil for 571
 and plantain 398
Barton, P., arboretum of 22
Bauman's New York Park 100
Beech, fern leaved 160
Beachlyffe 157
 entrance lodge 158
 grounds of 159
 trees at 157
Beans, best varieties 161
 culture of, &c. 161
Beautiful illustration 476
Beauty of flowers 374
Becar, the late Mr. 67
Bedding out, hints for 293
Bee, leaf-cutting 352
Bees in California 330
 feeding 331
 wintered under ground 237
Begonia rosacea 314
 zanthina 273
Belmont 67
Benzoïn odoriferum 265
Berberis, dulcis 483
Berberies 266
Betula excelsa 287
 lutea 287
Bhotan pine 222, 227
Biddulph Grange 193
Birds 283
Bishop's house and garden 345
Blackberries, Lawton's 485
Blackberry, high bush 280
 New Rochelle 288
Blandfordia nobilis 314
Blodget's Climatology 476
Blood manure, how to make 478
Boarding house, Amer., in Cuba 301
Bolax glebaria 381
Bonpland, M. 382

C

- Book, old on gardens* 537
Books 190
 a queen's 378
 for gardeners 286
 received 235
 three new 476
Borecole 414
Boston Weekly Exhibition 67
Botanical Garden, Cambridge, Mass. 67
Botany, Gray's lessons 245, 424
 language of 242
Bouquet, the illustrated 378
Bouvardia Houtteana 508
Box edgings, trimming 333
Boydell's endless railway 409
Boys' thievish habits 284
Bridgeman's greenhouse roof 285
Brincklé, Dr., portrait of 530
Brittle star, the 477
Broccoli, monstrous 86
Brooklyn Hort. Society 199
Buckthorn 310
Buckwheat tree 291, 309
Budding roses 372
Budleya Lindleyana 388
Bugs, house, destruction of 50
Brist's catalogue 139, 186
Bulb, a new food 435
Bulbs, importations of 1857 572
Bumelia lycioides 266

- Carrot, the wild 431
 Catalogues, &c. received .. 47, 102,
 145, 196, 278, 336, 387, 437, 481, 534,
 574
 Cutawassa raspberry 107, 474
 Cathedral at Havana 494
 Cauliflower, the 75
 Cedar of Lebanon 97
 wood of Cuba 347
 Cedrus deodara 221
 Libani 221
 Ceiba tree 316
 Cement, a new 431
 Cemetery, expression of
 rural 253
 Cerasus Caroliniensis 266
 lusitanica 266
 Chat from Kentucky 270
 Cheated, love to be 292
 Cheirostemon platanoides 101
 Cherries, Blackhawk 366
 delicate 366
 Governor Wood 366
 in Carolina 264
 Kirtland's Mary 366
 prices of 432
 the Kirtland 366
 lists of 525
 Cherry, cornelian 266
 De Kalb 339
 Chickens, gaps in 128
 Children's gardens 46
 China asters, &c. 573
 Chinese in Cuba 396
 plants, new 77
 proverbs 96
 sugar cane 78, 101
 Chionanthus Virginicus 266
 Chiswick, sale at 40
 Cigars in Cuba 302
 City trees 435
 Civilization, tests for 192
 Clarkia pulchella 286
 Clematis 42
 languinosa 283
 Pateus and Louisa 83
 Clerodendron bungii, or foetidum 45
 Clifton Park 306
 Climate of Cuba 219
 Close of the volume 567
 Clove, the 478
 Club of Hercules 265
 Clusia alba, &c. 382, 385, 397
 Cochineal at Kew 194
 Cocoa-nut, the 252
 Cocoa-nuts 348, 376
 Coffee growing 348
 Cold, effects of the 37, 141
 Colors of flowers 375
 Columbia, S. C., letter from 52
 Columbia, his effigy at Havana 494
 Colutea arborea 399
 Commercial Garden in Cuba 396
 Conifers, geological position of 363
 Conservatory 243
 the great 483
 Controversy, the pear 174
 Cope's, Caleb, country place 246,
 291, 321
 sale 188
 Copey 383
 Cornelian cherry 256
 Cornish, Sandy 232
 Corn-stalks in Havana 495
 Cornus 267, 387
 alba 267
 Florida 287
 mascula 267
 paniculata 267
 stricta 267
 Cosmo de Medicis 43
 Cottoncasters 267
 Cottages and villas 368
 Cotton plant 529
 Country house 230
 places, No. 6 23
 No. 7 65
 No. 8 156
 No. 9 206
 No. 10 256
 No. 11 305
 No. 12 350
 Cowper 241
 Crataegus 268
 Create, do plants 316, 388
 Credulity 241
 Croton sebiferum 331
 Cryptomeria japonica 220, 363
 Cuba 235, 249, 297
 bast 296
 trip to, .. 249, 297, 347, 395, 443,
 491, 540
 Cucumber, the, by Wm. Chorlton 31
 Cuulia Mariana 73
 Cupressus funebris 363
 Lambertiana 222
 Curculio 261, 264
 remedy 527
 Currant, black 132
 cherry 132
 Victoria 132
 white grape 132
 Currants, lists of 526
 Cushing, Mr., residence of 67
 Cydonia sinensis 149
- D**
- Darlington, Dr. 94
 Decay of races 283
 Delphinium cardinale 25
 Deodara 363
 Dientra 431
 Dictamnus 101
 Dielytra spectabilis 373
 Digger, old 28, 72, 223, 310, 359, 413,
 521, 554
 Digging potatoes, machine for 42
 Dinornis giganteus 525
 Dioscorea batatas 77, 564
 Dirca palustris 268
 Display at exhibitions 54
 Dittany 73
 Dog, the hyena 478
 Dogs in a state of nature 479
 Downing, C., Fruit Book 476
 Downing, A. J. 554
 Downing's, A. J., old diggers 28, 72,
 223, 310, 359, 413, 521, 554
 real monument 155
 Drying chamber 194
 Durian, the 141
 Dwarf peas 83
 trees 376
- E**
- Editor in Cuba 188
 Editor's table .. 41, 93, 140, 188, 235,
 279, 329, 378, 429, 475, 521, 567
 Edmonson, Dr. T., plants of 351
 residence of 350
 Elaeagnus hortensis 268
 Elder, the 479
 Elgin, Ill., letter from 54
 Elizabethan architecture 49
 Ellerslie, N. Y. 22
 Elvaston Castle 208
 Enemy, a new 383
 Epitaph on Downing 155
 on Dryden 156
 on Hogarth 156
 Errata 198, 342
 Eugenia ugni 841
 Euonymus's 268
 Evanston, Ill. 53
 Evergreen seedlings 333
- Evergreen trees, notes on 226
 Evergreens 229, 363
 in the spring of 1857 363
 lists of 394, 395
 on prairies 299
 what shall we plant 139, 186
 Excuses 245
 Exhibitions, display at 54
 State, for 1857 437
 Exhibitors, a hint for 48
 Experimental garden 320, 364
- F**
- Fagraea morindae-folia 314
 peregrina 314
 Farm houses, grounds for 225
 lands 296
 Fay, R. S., residence of 67
 Feast & Sun 352
 John 352
 Fernery, a parlor 383
 aquarium 281
 Ferns 334
 as food 478
 exotic 244
 seeds of 47
 Few things to know 425
 Fibre, a new 271
 Ficus elastica 331
 Field's Rural Architecture 381
 Firewood 96
 Fish, breeding of 380
 propagation of 285
 to preserve fresh 529
 Fish paradoxes 528
 Flax machine 330
 Flora cestrica 98
 Flora of the Cape of Good Hope 571
 Flora's Dictionary 194
 Flore de serres 378
 contents of 143
 Florida in winter 191
 Flower pots 482
 seeds 243
 stand, ornamental 176
 Flowers in a city 373
 Forcing frames 195
 Foreign notices 39
 Forests, reconstruction of 170
 Fraxinella 101
 French gardeners 480
 Frost and cuulia mariana 73
 gauge plum 88
 Fruit, a new 142
 Baxter's 482
 conventions 412
 culture 86
 in houses 349
 growers, annoyances of 164
 Growers' Soc., Northwestern 437
 Western N. York 132, 512
 in Canada 141
 new 45, 189
 report, intermediate 107, 140, 177
 season in Massachusetts 508
 trees importation of 329
 on prairies 269
 Fruits, new 189
 of Carolina 263
 of Cuba 348
 Fuchsia treatment 333
 Fulton, James D. 567
 Fungi 433
- G**
- Gapes in chickens 128, 530
 Garden at Turnham Green 282
 experimental 320, 364
 implement, new 236
 outbuilding 371
 tools 282
 vegetables 560
 Gardeners' old book 527

- Gardener's, J. L., residence ... 67
 Gardeners, the French ... 480
 Gardens for children ... 46
 Gas for cooking ... 331
 for country houses ... 669
 Gate fastener ... 308
 Gauthieria procumbens ... 308
 shallon ... 308
 Gazetteer of the World ... 399
 Genesee Hort. Society ... 197
 Gibbs, Miss, residence of ... 159
 Ginny fowl, to a ... 384
 Glass labels ... 281
 Glycerine for seeds ... 340
 Glycine, white ... 45
 Goldsmith's Animated Nature ... 97
 Gomez, Don N. J. ... 398
 Gooseberries, best varieties of ... 133
 cultivation of ... 133
 Downing's seedling ... 463
 Houghton's seedling ... 464
 Gooseberry, mildew on ... 564
 Gopher, habits of ... 184
 Gossip ... 42, 96, 144, 192, 241, 282,
 330, 380, 431, 477, 527, 570
 Gourd seeds, roasted ... 294
 Graft, influence of stock on ... 358
 Grafting geraniums ... 94
 lemon trees ... 195
 old apple trees ... 134
 thorns ... 431
 Grafts and the stock ... 483
 true theory of ... 182
 Grape, Archer ... 108
 Bowwood muscat ... 385
 Camak's ... 458
 Canadian chief ... 108
 Concord ... 293
 Delaware ... 533, 562
 Devereux ... 458
 Diana ... 154
 Elsinburg ... 458
 Georgia, report on ... 457
 golden Hamburg ... 335, 385
 Harris ... 461
 Lenoir ... 459
 Long's ... 178, 439
 new ... 43
 Norton's Virginia ... 461
 Ohio ... 458
 old house ... 458
 Rebecca ... 108, 188, 534
 Scotch white cluster ... 377
 Scuppernong ... 457
 vine borders ... 94
 manures ... 43
 native ... 430
 vines, to increase ... 324
 vitis aestivalis ... 458
 rotundifolia ... 457
 Warren ... 458
 Wilmington ... 108
 Graperies ... 92
 Grapery, New Grennel ... 466
 Grapes ... 92
 best for the vinery ... 147
 Canon Hall ... 372
 culture of ... 134
 for editors ... 339
 hardy ... 134
 hybridizing ... 563
 keeping ... 475
 lists of ... 626
 Mr. Chorlton's ... 472
 profit of ... 134
 the best ... 367
 two-crop system ... 280
 under outside doors ... 556
 Grasses and forage plants ... 235
 Gray, Dr. Asa ... 67
 Gray's Lessons in Botany ... 245, 424
 Manual of Botany ... 91
 Green fly ... 40
 Green fly, Mountain farmer, sad
 case of ... 193
 Greenhouse of J. McCall ... 34
 description of ... 243
 roof, Bridgeman's ... 285
 plants, great sale of ... 188
 Grennell's graperies ... 466
 Gridley, Rev. A. D. ... 571
 Grisebach's Flora ... 571
 Grounds for farm-houses ... 225
 Grouping and blending ... 333
 Guava fruited in Cleveland ... 475
 Gum tree ... 499
 Gundlach, John ... 443
 Gutta percha ... 87
- H**
- Habrothamnus aurantiacus ... 137
 Hall, J. Prescott, residence of ... 160
 Hamilton (Canada) Club ... 526
 Hampton Court ... 87
 Maryland ... 256
 Harris on insects ... 334
 Hartford Hort. Society ... 295
 Hawthorns ... 169
 Hazzard, Thos. R., residence of ... 257
 Hemp, Sisal ... 252
 Hens, sitting ... 39
 Herb of grace ... 286
 Hickory ... 384
 Hints for farmers, &c. ... 566
 seasonable ... 223
 Hogg's Vegetable Kingdom ... 571
 Hollidaysburg exhibition ... 435
 Holly, the ... 308, 323
 Honey dew ... 455
 Honeysuckles, to manage ... 482
 Hooker, Sir William ... 381
 Hooper's Fruit Book ... 327, 463
 Hop pillow ... 242
 Hopkins, Johns, residence of ... 506
 Horsechestnut tree ... 192
 Horticultural Societies ... 55, 197,
 199, 247, 281, 290, 295, 343, 438, 485
 Horticulturist, binding adver-
 tisements ... 196
 general index for ... 150
 mission of ... 481
 premiums ... 279
 various estimates of its value ... 9
 House cactus ... 243
 camellia ... 245
 country ... 231
 dwelling ... 421, 422
 forcing ... 245
 lily ... 243
 Nectarine ... 245
 orange ... 244
 orchid ... 244
 stove ... 243
 Houses, farm, grounds for ... 225
 Hovey, Mr. ... 400
 Magazine ... 430
 nurseries ... 67
 plants ... 68
 How to remit ... 575
 plants grow ... 524
 Hoya grandiflora ... 313
 Hunnewell's, H. Hollis, place ... 65
 Hurry, don't be in a ... 380
 Hyacinth, the ... 39
 Hyacinths, forcing ... 374
 treatment of ... 465
 Hybrid, novel ... 278
 Hybridizing ... 435
- I**
- Ice pitcher, double ... 381
 Ilex ... 308
 dahoon ... 308
 prinos ... 308
 verticillatus ... 308
 Illustrations, ludicrous ... 379
- J**
- Japan, new explorer ... 571
 Japan pea ... 79, 287
 plants, new ... 77
 Jardin Fruiter du Museum ... 294
 Jasmine ... 469
 Jenks, J. W. ... 277
 Jerrold's wit ... 529
 Jewellers' gold ... 528
 Joliet, Ill., letter from ... 52
 June berry ... 265
 Juniper ... 381, 388
- K**
- Kane, Delancey, residence of ... 157
 Dr., death of ... 395
 Keeping early pears ... 430
 Kelly's, Wm., place of Ellerslie ... 22
 Kennedias, grafting of ... 45
 Kentucky, a chat from ... 270
 invitation to ... 103
 Kenwood, near Boston ... 66
 Key West ... 251
 products of ... 252
 Keysburg, Ky., letter from ... 52
 King, Edward, trees of ... 160
- L**
- Lachenalia aurea ... 183
 Lady, a ... 342
 Landscape gardening and tree
 planting ... 58, 105, 153, 201
 Lapageria rosea ... 375
 Larch ... 388
 Laurels, English and Portugal ... 223
 Laurus benzoin ... 265
 Law case in England ... 193
 Lawson's Gardening ... 557
 Leather-wood ... 268
 Leaves for leaf mould ... 191
 Lee, Mr., residence of ... 67
 Legends of trees ... 406, 467
 Leycesteria formosa ... 309
 Lichens ... 433
 Ligustrum vulgare ... 309
 Lilacs, to manage ... 482
 Lilies, Japan ... 68
 Liliun giganteum ... 385
 Lincklaen, Ledyard ... 495
 Lumere, near Boston ... 67
 Livingstone, Rev. Dr. ... 143
 Livingston's, Mrs. E., place ... 22
 Loniceria Ledebourii ... 609
 tartarica ... 309
 xylostium ... 309
 London, Life of J. C. ... 14, 41, 59,
 116, 140
 Lürmann, G. W. ... 206
 Lyman, Gen., residence of ... 67
- M**
- Magnolia conspicua ... 219
 glauca ... 309
 grandiflora ... 223
 macrophylla ... 334
 purpurea ... 219
 the ... 218

- Magnolia Thompsonii* 219
tripetala 219, 309
Malvaceae 266
growing roses 331
Manchined tree 148
Mangosteen 281
Mantlepiece, oak 369
Manual of Botany 91
Manures, special 262
Maples as ornamental trees 449
Martins animals 477
Marl, New Jersey 381
Massachusetts fruit season 508
Hort. Report 280
Matanzas 493
cooking at 493
hotel at 493
Mauzy, Lieut., statement of 184
McMahon's gardening 468
Meat kept fresh 330
Mechi, tribute to 43
Melon, Trenham cocoa-nut 44
Melons in Persia 426
Meteorite stones 332
Myecenia erecta 45
Mice, poisoning of 435
to destroy 529
Michaux, F. A., memoir of 353, 499, 524, 547 41
will of 333
André, memoir of 353
Michigan Agr. Transactions 477
Microscope, its revelations 573
Microscopic papillæ 529
Mildew and sulphur 385
sulphur for 335
on gooseberry 564
Milk, dried 194
Miller, Hugh 479
Mistletoe 467
Mitchella repens 309
Moisture for orchideous plants 425
Monson, Mr., Cuba 443, 493
Monsons, boarding in Cuba 401
Montgomery Place, N. Y. 22
Mowers and reapers, premiums 378
Mulberry, French 266
Muriate of lime, Gold's 262
Mushrooms 142
cultivation of 446
Mylocarium ligustrinum 309
- N**
- Necrology* 47
Nectarines A. 526
New fruit 45
plants 183, 313, 338
varieties of fruit 43
Newport 294
around 156
Night temperature 71, 282
North, Prof. Edward 571
Northwestern fruit growers 437, 525
Norway spruce 227
for shelter 134
Notice 567
Nutmegs, oil of 42
Nuts and seeds 142
- O**
- Oak, Lucombe* 450
new hardy 45
an ancient 49
valonia 103
Oakwood College, letter from 53
Ohio Pomological Society 438, 526
Ohio's honors 430
Oidium Tuckeri 431
Okra 257
Old Digger 534
Olive 265
Orange at Key west 252
tree in Cuba 446
Orange trees, old 479
Orchard houses 349
fruit in 350
Orchideous house, Llewellyn's 20
plants 425
Orchids, sale of 339
Ornamental berries, shrubs with 265
shrubs, list of 172
Ornaments 262
Osage orange, large 351, 382
Otto, C. F. 43
Oxalis Bowell 40
- P**
- Packing Book* 567
Packing trees and plants 11
Palm, cocoa-nut 376
cutting down a 491
near Trinidad 298, 492
royal 297
Pampas grass 97
Papaw 529
Parian ware 106
Park, the Philadelphia 280
the Schuylkill 100
Parsons & Co.'s Nursery, &c. 23
rare plants of 23
residence of S. B. 25
Partridge berry 309
Paréo at Havana 299, 495
at Matanzas 493
Patently 241
Patent Office Report 50, 89
Paxton, Sir Joseph 573
Pea, Japan 79, 287
the 123, 366
Peabody, Mr., residence of 67
Peabody's premium 481
strawberry 336
Peach, Albert's rare ripe 178
Athenian cling 180
Baltimore rove 177
best market 516
cultivation 134
Donnahoo cling 179
golden 178
Grant's cling 180
Horton's delicious 180
house 331
in Carolina 263, 264
Jackson cling 178
large white cling 177
Pace or Columbia 178
pearl cling 178
President Church 179
princess paragon 177
Raymond cling 179
seedling 178
seedlings 179
snow cling 177
St. Michael's 178
Stevenson cling 178
Titus 107
tree borer 418
trees 37
pruning of 330
how to treat 166
white English 178
Peaches, best for orchard house 148
lists of 526
Pear, beurré superfin 31
Capiamont 573
blight and honey dew 455
church 113, 434, 531
controversy 174
cracking of 469, 565
culture of 527
decrepit of 232
Frankford 111
Huntingdon 113, 531
Lycurgus 365
Ontario 112, 530
Pear, parsonage 114
poire peche 473
Ritter 110
Schleek 114
slug 453
trees, sickly 72
Wilmington 112
Pears 93
best market 515
buerré blanc 178
défil 178
kenes 216
callebasse delvigne 214
culture 400, 542
dwarf 83, 123
Easter bourré 136
Emile d'Hoyst 215
General Bosquet 516
General de Lourmel 516
glout moreau 136
in Carolina 264
keeping 430
Lieut. Poidevin 516
list of 525
Louise Bonne de Jersey 178
Marshal Pelissier 516
Napoleon 178
new 516
on quince 233
on thorns 195
Shepherd's seedling 215
surpass virgule 178
Vicar of Winkfield 93
winter, growing of 136
blight 523
Peas, best varieties 125
Pecan nut 330
Pedrigal's garden, Cuba 396
Pennsylvania Hort. Society 55, 150, 199, 247, 343, 435, 485
Pentland, Brother 352
Peonies, the moulan 427
Perfume factory 334
Perkins, Col., residence of 67
Perry, A. J., residence of 24
Pharbitis rubro-cerulea 137
Philadelphia in olden time 96
Physiology, vegetable 228
Picea cephalonica 222
Pine Bank 67
Pineapple, branching 284
Pinetum, idea of a 426
Pinon real 357
Pinus Austriaca 97
excelsa 222, 227
filifolia 45
Gordoniana 183
Grevillii 183
Hartwegii 36
insignis 363
Pistol plant 432
Plane tree, American 405
Plantain and banana 398
Plants, do they create 316
for a dressed road 462
for hanging baskets 531, 532
for pot culture 532
for rockwork 532
for stoves, the best climbers 531
how to grow 504
Industrialists 283
new 183, 313, 532
vegetation of 524, 527
Plough, Cuban 303
Plover, the 282
Plum, blue rot in 148
frost gage 88
Plums 38
lists of 526
Poetry! 384
Poe, Prof. Phillip 443
Pomological Society, American 93
Pomology of the West 260

- Poor rich men 369
 Portable steam engine 383
 Pot, a propagating 385
 Potato, annual 273
 biennial 273
 early maturity of 275
 fine flavor 275
 good shape 274
 hardness of 274
 perennial 273
 western red 274
 white flesh 274
 Potatoes, drying process 149
 seedling 273
 Potting-bench practice, a good 293
 Pounded glass 332
 Practical hints to amateurs, by
 A. J. Downing 28, 310, 534
 Practice in rustic work 470
 Prairie sea 381
 Prairies, evergreens on 269
 fruit trees on 269
 Premiums 279, 571
 Privet 309
 Prodigious son, food of 43
 Propagating house, new 531
 stoves for heat 531
 Propagation by mere leaves 168
 Protecting trees 185
 Pruning 336
 Pumpkins, monster 96
- Q**
 Quaint old gardeners' book 557
 Queen's book, a 378
 Quince, China 149, 287
 pears on 233
 stock 400.
- R**
 Railroads 571
 Railway, endless 409
 Rainy season in the tropics 301
 Random notes 365
 Raspberries, list of 526
 Raspberry, Allen 133
 Antwerps 132, 133
 black 132, 133
 cap 132, 288
 Brincklé's orange 288
 Catawissa 107, 472
 Col. Wilder 288
 Cushing 288
 Hudson River Antwerp 288
 Knevet's giant 288
 leather clippings for 147
 orange 133, 145, 313
 red 133
 sawdust for 147
 thunderer 288
 to winter 485
 Vice-president 288
 Rats, to kill 571
 Reapers and mowers, premiums 378
 trial of 329
 Red spider 325, 479
 Reply to Dr. Ward 83
 Reports, intermediate 107, 140, 177
 Review 89, 368
 Rhamnus Caroliniensis 310
 catharticus 310
 Rhododendrons, cultivation of 403
 Himalayan 193
 Mr. Kane's 160
 soil for 474
 Rhubarb, Linnæus 391, 435
 Ribbon gardening 150
 Rifle, the born 369
 Rifle and hound 432
 Road, a dressed 462
 Roots grown in pots 212
 Rose, Isabella Gray 384
 Roses 94, 236, 281
 Roses, budding of 372
 cloth of gold 246
 culture of the 238, 428
 in winter 44
 Isabella Gray 331
 management of 482
 new 382
 new varieties of 412
 remarks on 44
 select list of 158
 souvenir d'Elise 411
 wall 372
 Rules for showing a garden 190
 Rural Architecture, Field's 381
 poetry 277
 Rustic basket, gay 377
 fancies and realization 545
 work 471
- S**
 Salad bowls, two literary 92
 Sale of Mr. Cope's plants 321
 Salvia gesneriflora 373
 Sandarach gum 42
 Sanders, E., & Brother 191
 Sargent, H. W. 293
 Sarville, Don F. A. 347, 398, 441
 Savine, the 39
 Saxe Gotha conspicua 202
 Scale and red spider 479
 turpentine for 284
 Science and Horticulture 523
 Scorpion in Cuba 495
 Seasonable hints 223
 Seasons, the 430
 Seeds, intermixture of 148
 of ferns 47
 vitality of 456, 524
 Sequoia gigantea 280
 Shagreen 242
 Shelter, importance of 133
 Shrubs, select list of 172
 with ornamental berries 265,
 308, 355, 434
 Sisal hemp 252
 Skeleton leaves, to make 387
 Skirret, the 40
 Slugs 340
 Smith, Alfred, residence of 160
 Smithsonian reports 241
 Smoking in China and Cuba 527
 Snake nut tree 197
 Snow's, Dexter, verbenas 145
 Soap by the saponifier 191
 Society d'Acclimation 143
 Sonerila elegans 313
 Sorghum saccharatum 78
 Spade, the Treadle 280
 Spice bush 265
 Spider, red 47, 323
 Spindle trees 268
 Spirea callosa 478
 Spring, by W. 213
 Spruce, white 227
 Squash, cultivation of 307
 mammoth 572
 varieties of 307
 Squills 432
 Stephanotis floribunda 436
 Stock and the graft 483
 Stoms, W. S., pears 190
 Street trees 449
 Strawberry 92
 list of 526
 Strawberry, a two-pound 189
 Albany seedling 484
 beds, how to make 339
 Bicton pine 220
 Black Prince 389
 Charles's favorite 351
 discussion on 417
 extensive cultivation 388
 Harlem orange 351
- Strawberry, in Iowa 434
 Marilandica 337, 351
 Peabody's seedling 143, 337, 390
 scarlet magenta 337
 sexual changes in 418
 character of 334
 tan for the 147
 the Smythe 389
 tree 265
 Viscount Héricault 529
 Sub-tropical tree-forms 529
 Sugar making 97, 395
 Sulphur and mildew 386, 430, 432
 for mildew 335
 on camellias 427
 Swans 193
 Sweet corn 216
 William 428
 Swift's lawn mower 335
- T**
 Tan 267
 Tansy, its value 50
 Taxodium sempervirens 100, 222, 364
 Taxus baccata 223
 hibernica 222
 Thayer's, Jno. E., residence 67
 Thornburn, G. C. 385
 Thujopsis dolabrata 282
 Thysacanthus rutilans 45
 Times, hard 475
 Toads for pets 479
 in cucumber frames 194
 Tobacco in Cuba 302
 Transplanting trees 292
 Travellers not scientific 143
 Tree planting in groups 58, 105,
 153, 201
 Tree-forms, sub-tropical 529
 Trees around Newport 157
 as arches 99, 196
 dwarf 376
 legends of 406, 467
 of Paris 97
 Peruvian 341
 protecting from cattle 185
 Trip to Cuba 249, 297, 345, 395, 443,
 491
 Truffle 96, 146, 290
 Tulip trees 195
 Turnips, to raise 361
- U**
 United States Agricultural So-
 ciety 317, 329
 Journal 93
- V**
 Valonia oak 103
 Van Houtte's Flora de Serres 378
 Vancluse, near Newport 159
 Variegated plants 376
 Vaux, Calvert 368, 421
 Vegetable matter 477
 physiology 129, 228
 Vegetables, garden, by Wm.
 Chorlton 31, 125, 161, 216, 259,
 307, 361, 414, 446, 509
 in Cuba 348
 Veranda, inclosed 424
 Verbenas 148
 Dexter Snow's 289
 Jane Hanson 276
 Snow's 145
 to keep 436
 Village gardener 381
 Villas and cottages 368, 421
 Vine borders heated artificially 81
 experiments with 431
 pruning 365
 Vinery 245
 Vineyard 151, 199, 207, 343, 391, 439,
 487

A black and white line drawing of a castle on a hill. The castle has multiple towers and battlements. In the foreground, there is a body of water with a small boat and a deer on the shore. The background shows rolling hills and trees.

INDEX TO CORRESPONDENTS.

A		G		R	
A. B., Union, S. C.	263	G. C.	289	R. J. B.	101
A. B. B.	334	Garber, J. B.	77	Ray, D. W.	147, 449
A. D.	436	Goodrich, C. E., Utica, N. Y.	273	Reagles, C.	52
A lady subscriber	333	Grant, C. W.	154	Rees, Richard	419
A subscriber 101, 388,	437	Grape Cultivator	386	Reynolds, H. H.	51
Andover, Mass.	485	Gray, Asa	504	Rivers, Thomas	289
Wilkesbarre	195			Rosa S.	240
York	195				
A. W. C.	287	H		S	
Admirer of Downing	155	Hanchett, John C.	453	S.	336, 387
Alexander, W. H.	406, 467	Huling, E. J.	391	S. S.	286
Amiable Contributor	470	Hull, A. A.	534	Sargent, H. W.	293, 303
Amicus	71, 294	Hurd, H. B.	53	Saul, John	220, 339, 403
Anonymous	164			Saunders, William 55, 104, 152, 199,	
		I		248, 296, 344, 391, 439, 487, 535, 575	
B		Indiana subscriber	261	Sauvalle, Francisco A.	385
B.	103	Inquirer	333	Scott, R. R.	523
B. C. C.	148	J		Seelye, C. W.	197
B. W.	101	J., Westchester, Pa.	226	Senex	246
B. W. R.	240	J. G., Leesburg, Va.	286	Shipley, William	349
Bacon, William 37, 672,	508	J. M.	288	Snow, Dexter, Mass.	289
Basset, W. F.	483	J. J. D.	150	Stauffer, Jacob 73, 128, 271, 291, 352,	
Baxter, Isaac B.	482	J. P. H., New Orleans	286	418, 452	
Berkmans, L. E. 434, 463, 516,	542	Jones, A. D.	286	Susan	148
Betsy W.	147	Jonge, De, J.	232	Swain	52
Betts, Charles	288			T	
Brevitas	102	K		T. M.	184
Bridgeman, Andrew	286	Kidd, George	390	T. T. S.	387, 485
Brincklé, W. D. 93, 116,	520	Kirtland, J. P. 95,	218	Tait, Michael, Sen.	52
Brown, Wm.	198			Taylor, James	102
Buchanan, R. 151, 199, 247, 295, 343,		L		Taylor, Yardley 129, 228,	455
391, 439, 487, 535, 574		Lady, a Carolina	388	Terra, Norristown, Pa.	469
Buist, Robert 209, 265, 335,	358	Legg, C., M. D.	334	Thomas, Asa	148
		Llewellyn, J. Dillwyn	20	Tompkins, Wm. 88,	565
C		Logos	182	Thorp, Smith and Hanchett	534
C.	195	Longworth, Nicholas	518	Towles, W. A., Kentucky	270
Campbell, Geo. W.	533	Loser, B.	246		
Carpenter, working	545	M		V	
Charlton, William .. 34, 36, 75, 125,		McElroy, F. C.	172	Vermont	149
161, 216, 259, 307, 361, 414, 446, 466,		Meehan, Thomas .. 11, 243, 308, 356,		Viator	321
609, 560		417, 434, 519			
Correspondent, a	387	Meigs, C. D.	149	W	
Corson, Alan W. 103,	287	Mish, H. W. 147, 337		W., New York	213
				W. A. D.	534
D		N		W. D.	197
Daniels, Wm., California	290	N. C., Oregon	286	W. E.	333
Davis, Franklin	288	Nichols, Eli, Coshocton, Ohio	269	W. F. B.	195
Davis, H.	54	Noble, H. C.	562	W. W.	484
De Jonghe, M.	30	North, Prof. Edward	253	W. W. T.	240
Degraw, J. W.	198			Waldo, W. B.	86
Delavan, E. C.	79	P		Ward, J. M.	174
Dewey, D. S.	198	P. T.	240	Watson, John	420
Downing, Charles	391	P. T. W.	196	Weiser, H. B.	634
Durand, Elias 499,	547	P. W.	181	White, Robert Hicks	150
Durand, L.	225	Parsons, Samuel B.	123	White, W. N. 189, 389,	457
		Parvin, J. P.	184	Wilder, Hon. M. P.	214
E		Penns. Hort. Soc., Member of ..	364	Williams, Fletcher	196
E. L.	466	Peters, Harnden & Co.	339	Withers, Frederick W.	230
Elliott, F. R.	365	Place, D. S.	51	Wood, J. E.	149
English Gardener	664	Plank, E. N.	405	Wyman, L., Jr.	262
		Plummer, John T. 287, 388			
F		Practical Gardener	561	Y	
Fall, W. F. 436,	564	Pryor's red	260	Young and Enthusiastic Gardener 94	
Field, J. W.	83				
Figaro	566	Q		Z	
Foster, John B. 287,	316	Q. Q.	289	Zevely, E. S.	61
		Querist	400		

INDEX TO ILLUSTRATIONS.

LIST OF PLATES.

FRONTISPIECE—STEEL PORTRAIT OF F. ANDRE MICHAUX.

Residence of S. P. Parsons, Flushing, L. I.,	Frontispiece to	January number.
Beurré Superior Pear,	do.	do. do.
Clematis Patens,	do.	February do.
Illustrations of Tree Grouping,	do.	do. do.
Habrothamnus Aurantiacus,	do.	March do.
Illustrations of Tree Grouping,	do.	do. do.
The Diana Grape,	do.	April do.
Illustrations of Tree Grouping,	do.	do. do.
Biotin Pine Strawberry,	do.	May do.
Illustrations of Tree Grouping,	do.	do. do.
Begonia Xanthina,	do.	June do.
Brincklé's Orange Raspberry,	do.	July do.
Pinón Real, or Coral Tree,	do.	August do.
Tea China Rose, Souvenir d'Elise,	do.	September do.
Mrs. Almy's Hotel, Havana, where Dr. Kane expired,	do.	do. do.
Carolina June and Maverack's Sweet Apples,	do.	October do.
El Carolina House, Island of Cuba,	do.	do. do.
Bouvardia Houtteana,	do.	November do.
The Cathedral at Havana,	do.	do. do.
View of the Imperial del Paséo,	do.	do. do.
Delaware Grape,	do.	December do.
Governor-General's Palace, Havana,	do.	do. do.

LIST OF ENGRAVINGS.

A Classic Vase	136	Lycergus Pear	365
A Gate Fastener	569	Meister and Christiana Apples	109
A Gate Ornament	173	Monstrous Broccoli	88
A New Garden Implement	237	Old picture of Planters	527
A Parlor Fernery	383	Orchideous House of J. D. Llewellyn	20
A Rustic Flower Stand	471	Ornamental Flower Stand	146
A Woodland Scene	234	Palm near Trinidad	303
Abies Pinsapo	258	Palm near Trinidad, Cuba	492
Apple, Jackson	520	Parian Ware and Swiss Wood-carving	107
Beachlyffe Grounds, Newport	159	Parrot Aviary and Grapery	436
Beachlyffe Lodge, Newport	158	Parsonage and Selleck Pears	114
Beurre Kennes Pear	216	Peach Tree Borer	419
Branch of Saxe Gotha Conspicua	203	Pear, Beurré Clairgeau	573
Bridgeman's Permanent Roofed Greenhouse	285	Pear, General Bosquet	517
Calebasse Delvigne Pear	215	Pear, General Lourmel	517
Carpenter Apple	366	Pear, Lieutenant Poidevin	517
Clipped Yews at Elvaston Castle	212	Pear, Marshal Pelissier	517
Country House and Principal Floor	231	Perspective View of a Dwelling House	421
Cuban Plough	303	do. do. do.	422
Cucumber Forcing House	32	Pinus Hartwegii	36
Design for an Inclosed Veranda	424	Plans of S. B. Parson's House	26, 27
Design for an Oak Mantelpiece	371	Poire Pêche (Esperen)	473
Downing's Real Monument	155	Portrait of J. C. Loudon	14
Downing's Seedling Gooseberry	463	Protecting Trees from Cattle	185
Eight Illustrations of Ornamental Iron Work	496, 497, 498	Pruning the Grape-vine	367
Emile d'Heyst Pear	215	Ritter Pear	110
Fancy Rustic Cottage	546	Rivers's Treddle Spade	289
Fifteen Illustrations of how Plants Grow	504, 505, 506, 507	Royal Palm	293
Frankford Pear	111	Rustic Basket	340
Fructification of Saxe Gotha Conspicua	204	Scale of Zamia Sprouting	169
Gapes in Fowls	128	Screw Roots grown in Pots	214
Garden Structure	371	Sheppard's Seedling Pear	215
Gas Apparatus for Country Houses	82	The Bishop's House, Cuba	345
Grape-vine Caterpillars	452	The Ceiba Tree, with Air Plants	346
Greenhouse of J. McCall	35	The Leaf-cutting Bee	352
Ground Plans of the same	35	The Summer Aviary	319
Hanging Vases	532, 533	Titus Peach	109
Houghton's Seedling Gooseberry	464	Trees as Arches	196
Huntingdon and Church Pears	113	Two Conservatory Flower Pots	482
Illustrations of Trees as Arches	99	View of Cape Florida at Sunset	251
Leaves as Cuttings	170	Vine Borders Heated Artificially	82
		Wilmington and Ontario Pears	112
		do. do. do.	

&c. &c. &c. &c.

New York Botanical Garden Library



3 5185 00256 8002

